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MENTAL PATHOLOGY

AND

THERAPEUTICS

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BY

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TRANSLATED FROM THE GERMAN (SECOND EDITION)

BY

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NOTE BY THE TRANSLATORS.

We have endeavored, in the following translation of the second edition of Professor Griesinger's standard work on 'Mental Pathology and Therapeutics,' to give the English reader an accurate and literal rendering of the German text. In thus adhering to the literal meaning of the author, we have followed the example of the learned translator of the French edition[1] of this work, with which we have throughout carefully compared our own readings. If possible, the French translation renders Professor Griesinger's German medico-metaphysics (not easily understood even in German) more literally than we have done. It was soon evident to us that any attempts at a more liberal rendering of these difficulties would only farther obscure—possibly contravene—the author's meaning.

Professor Griesinger is essentially the representative and the acknowledged leader of the modern German school of Medical Psychology. As such, his work must be an object of deep interest to every student in Mental Science.

C. L. R.
J. R.

June 1, 1867.

---

[1] 'Traité des Maladies Mentales, pathologie et thérapeutique, par le Docteur W. Griesinger, etc. etc. Traduit de l'Allemand (2e édition) sous les yeux de l'Auteur, par le Docteur Doumic, Médecin de la Maison centrale de Poissy.' Paris, 1865, pp. 587.

PREFACE TO THE SECOND EDITION.

I AM happy to be able at last to place in the hands of the profession the long-delayed second edition of this work. It is not entirely a new work, many chapters remain entirely unaltered; many others, however, have undergone correction and remodelling, and, in particular, great additions have been made, which I hope may be considered as adding to the value of the work. Fewest changes have been necessary in the description of the special forms of insanity: melancholia, mania, dementia, etc., have indeed remained the same since 1845. Most alterations and additions occur in the parts relating to etiology, pathological anatomy, the anatomy of the brain, the psychological introduction, the complications of insanity, and treatment. An entirely new section on the general diagnosis of mental disease has been added, and also a section on idiocy and cretinism. This subject is entirely omitted in the first edition. Since the date of its publication I have had occasion and opportunity more immediately to employ myself with these states through my connection with the idiot asylum of Mariaberg, which was under my direction during the latter period of my residence in Würtemberg. The number of illustrative cases have been increased by the addition of several interesting examples: in many of the more important chapters the principal literature is given to the reader who desires further information; finally, I have, as often as opportunity occurred, sought to elucidate the medico-legal aspect of psychiatry from the stand-point of the doctrines contained in this work, and, as occasion offered, expressed my views shortly but distinctly concerning much that is related to the present state of medical psychology. In this I had solely the interests of science and the profit of the reader in view, totally regardless of the censure or applause of this or of that school.

As, to my great joy, the first edition of this work won many friends to the study of our interesting science, I hope that the second also will contribute to the extension of psychological knowledge, and, in particular, of correct views upon the subject. In the Universities our specialty is still far too much ignored, and clinical instruction especially is as yet nowhere conducted and acknowledged in a degree corresponding to the importance of the subject. I have done my part. In Tübingen, for upwards of ten years, I regularly delivered lectures upon medical psychology, in conjunction with my principal subject, and, as often as opportunity offered, admitted cases of mental disease into my clinique, making them, like any other disease, the subjects of clinical instruction and discussion. The advantage of this is so apparent that I live in the hope that very soon the establishment of regular psychological cliniques will become general. It is through these that the proper idea, the purely medical, of mental disease, conjoined, however, with a knowledge of the morbid mental symptoms, can first receive that general extension, so very desirable, whereby mere asylum managers can no longer call themselves medical psychologists, whereby that fantastical bombast, sounding of the spiritual world, which is still sometimes apparent in psychological literature, will soon give way to temperate, clear, medical observation.

Several of the most recent writers on insanity have been so well pleased with the first edition of my book that they have assumed into their writings not only the ideas and doctrines, the arrangement and example scontained in it, but have even taken, without restraint, as their own, simple excerpts of whole sections. I quietly permitted this to occur, but now it would, of course, be disagreeable to me if any one were to think that it was I who, in this edition, had borrowed from those authors. I would therefore beg of the reader, wherever doctrines, pages, and even chapters, occur similar, or nearly similar, to what they may shortly before have read in books or journals, simply to compare them with the first edition of this work which appeared in 1845.

G.

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ON

MENTAL DISEASES.

BOOK FIRST—GENERAL.

CHAPTER I.

ON THE SEAT OF MENTAL DISEASES AND THE METHOD OF THEIR STUDY.

§ 1. THE following treatise has for its object the study of mental disease or insanity, its diagnosis and treatment. Insanity itself, an anomalous condition of the faculties of knowledge and of will, is only a symptom; our classification of the group of mental diseases proceeds upon the symptomatological method, and by such a method alone can any classification be effected. The first step towards a knowledge of the symptoms is their locality—to which organ do the indications of the disease belong? what organ must necessarily and invariably be diseased where there is madness? The answer to these questions is preliminary to all advancement in the study of mental disease.

Physiological and pathological facts show us that this organ can only be the brain; we therefore primarily, and in every case of mental disease, recognize a morbid action of that organ.

§ 2. Physiology considers mental activity as a special form of organic life; it recognizes in mental energy the function of a particular organ, and attempts to deduce it from the physical organism. Well-known experiments prove that if the mental faculties, in the wide sense of the term, are related to the whole nervous system, the seat of intelligence and of volition is in the brain, and confined to certain portions of it. Of course, the spinal cord, as also the ganglionic system of the sympathetic, possess not only functions of transmission, but also central functions of communication, of association, and of excitation (tonicity, reflex action, etc.), but relatively to the higher central functions theirs is merely peripheral. The states of any part of the nervous system, inasmuch as they are transmitted to the brain, also furnish matter of mental excitation and intellectual activity. Impressions can originate from every peripheral nervous ramification which may prompt to motives, and originate obscure or well-defined conceptions and efforts; but it is the brain alone which receives and concentrates these impressions, and which originates the influences exerted by them upon series of co-ordinate movements—that is, upon the actions.

The deeper actions of the understanding and will can no more be deduced from the organization of the brain than those of sensation. Nevertheless, the successive acts of the mental faculties can, in a general manner, be easily referred to the structure of the different parts concerned. That portion of the central nervous system within the cranium consists of masses of nerve-substance. These receive the sensitive columns of the spinal marrow, and the central expansions of the higher nerves of sense; from this again the motory columns of the marrow proceed. In accordance with this, we see that all impressions occurring centripetally, through the senses, converge in the brain, are perceived, assimilated, and excite the mental faculties, and then give rise to new centrifugal acts, owing to the relation in which sense and mind stand to the actions of the motory system.

We see that in the animal species the psychical powers are varied, and capable of high development, in proportion to the size, the quality, and the form of the brain; in short, according to the volume of the great hemispheres. So also, in the human race, we observe that great deficiency of cerebral development is attended by weakness of the mental faculties, of the intellect and will (in many cases of idiocy); and experience teaches, that in all men these faculties materially alter with the degree of development, and the changes which the brain presents, at the different stages of life. Even in these changes, these successive steps of gradual progress in maturity and decline, the mental capacity of the brain runs parallel with all the other organic functions, and thus proves itself liable to the same laws of organic development.

As is well known, it has been already attempted to refer certain phases of mental activity to other parts of the nervous system than the brain: for instance, feeling has been referred to the nervus sympatheticus. From a psychological point of view, this attempt sprang from the sufficiently refuted assumption of the isolated character of the mental faculties. From the physio-pathological point of view, it stands in opposition to all we can positively declare respecting the functions of the sympathetic nerve. Quite as unfounded, and equally unexpounded, is that doctrine which assumes an immediate co-operation of all parts of the organism, therefore of the bones, glands, etc., with the mental functions, and would, accordingly, deduce insanity immediately from disturbance of these peripheral organs.

In recent times, in consequence of very interesting results furnished by experiment, essentially psychical functions, sensation, and even volition, have been ascribed to the spinal marrow (Pflüger, Aurbach). Schiff ('Physiol. des Nervensystems,' i., p. 211) has clearly and conclusively elucidated these views, as well from the experimental as from the psychological stand-point. It may readily be admitted that the impressions are produced in the spinal marrow, generally after the same scheme as in the brain; and it cannot easily be directly refuted, that in the spinal marrow of the frog, sensation, and even pain, still remain after decapitation; but as regards *will* (in the ordinary sense of the word) it cannot be supposed to be here in question, for the will implies sensations, which have entered the sphere of consciousness, along with the idea of the effort which produces movement, of space, of the limits of body—acts for the accomplishment of which the co-operation of the central sphere of the sense of sight is absolutely necessary. Very recently, Pflüger's theory, founded upon his experimental data, has also been called in question (Gōltz, 'Konigsb. Med. Jahrbuch,' ii., 1860, p. 189).

§ 3. Pathology proves as clearly as physiology, that the brain alone can be the seat of normal and abnormal mental action; that the normal state of the mental process depends upon the integrity of this organ; and that both together are influenced by the state of the other organs in disease. The invariable and essential symptoms of cerebral diseases may arise from internal causes or external lesions; may proceed from anomalies of sensation and movement, and, in serious diseases, even from mental disturbance (exaltation or depression of the ideality, loss of self-consciousness, delirium, etc.). Cases of less frequent occurrence, where, with serious disorganization of the brain and loss of brain-substance, no disturbance of the mind is apparent, do not invalidate the results of our everyday experience.

Collections of such cases are to be found, as in Longet (Anat. et Physiol. d. Syst. nerv.,' Paris, 1842, i., p. 670). With reference to most of these and other similar cases with which we are acquainted, different opinions may be held. In almost all, intelligence, in the narrow sense of the word, is alone considered; the circumstances of disposition and will are entirely overlooked; and even to the intelligence but slight tests are applied to prove its integrity, such as the answering of simple medical questions. In none of these observations has the intelligence been tested in its full extent, and in many, particularly in all hospital cases, a comparison of the mental condition after the disease or loss of substance with the earlier state was absolutely impossible. All nicer distinctions, therefore, cannot be considered. Notwithstanding, it must be admitted that there may be disease and loss of brain, and yet no appreciable disturbance of the mental life. Very much depends upon the seat of the disease; all parts of the brain do not stand in the same close relation to the mental functions; some stand much more in relation to muscular movement (Pons, Thalami, etc.). Further, with the brain, as with all other bilateral organs, it is highly probable that a compensation is made by the remaining healthy half (see § 15). Lastly, we frequently find limited anatomical lesions in other important organs without any striking functional derangement (chronic gastric ulcer, pleuritic adhesions, tubercle, etc.); and loss of substance (through gangrene) has likewise been observed, as in the lungs or in the bowels, where, after recovery, the process of respiration or of digestion proceeded without apparent interruption. Such facts, however, would not readily be admitted in opposition to the tenet, that the lungs are the organs of respiration, and that digestion takes place in the bowels.

Further and more apposite testimony in favor of our assertion, that the brain is the organ affected in insanity, is furnished by examination of the bodies of the insane after death. In many such examinations, true anatomical changes are found in the brain itself, or in its coverings; and where anatomical changes exist those of the brain are, at least, the only constant. The circumstance that such changes are not always found should not weaken this argument. In those affections of the nervous system which are chiefly indicated by states of irritation, as neuralgias, cramps, etc., we very frequently find no appreciable anatomical lesion; and this is still more the case in the conditions of weakness, paralysis, etc. Very many mental diseases belong to the first of these two classes. It is with this class of mental diseases as with a number of other nervous affections, as epilepsy, tetanus, etc., whose seat is in the brain or spinal marrow; and although in many cases this cannot be ocularly demonstrated by pathological anatomy, still, on physiological grounds it is universally admitted.

The majority, however, of the mentally diseased, besides disturbances of the intellect and will, present remarkable anomalies of other functions which doubtless belong also to the brain; above all, hallucinations, anomalies of sensation, which in many cases are felt to be peripheral, but whose origin must necessarily be in the brain, as is irrefutably demonstrated by Esquirol's cases of permanent hallucinations of sight with complete blindness from atrophy of the optic nerve. We see, too, that the central excitation of voluntary muscles, which is incontestably a cerebral function, is altered in the cases of many who are mentally diseased: sometimes it assumes the forms of exalted activity and energy, sometimes of cataleptic rigidity; at others it is seen as that form of paralysis whose rapid progress accompanies the course of a certain form of insanity (dementia). Besides, many other anomalies of cerebral function, as lessened sensibility to pain and temperature, sleeplessness, convulsions, cerebral congestion, etc., are observed in the insane more as accessory symptoms; which, however, may serve further to confirm the existence of disease in the brain.

While, at all events at the time of the first edition of this book, many physicians, indeed whole psychological schools, still require absolute proof of the concluding sentence of § 1, many of the more eminent psychologists long ago came to the same correct conclusion, that in every mental disease the brain is affected, and that this cerebral affection is the proximate cause of the insanity. (See Stiedenroth, 'Psychologie,' ii., p. 278.)

§ 4. While we are forced by facts to refer understanding and will to the brain, still, however, nothing can be assumed as to the relation existing between these mental acts and the brain, the relation of soul to material. From an empirical point of view the unity of soul and body is indeed a fact primarily to be maintained, and the *à priori* investigation of the possibility of soul apart from body, of a bodiless soul, must be entirely dismissed, confining ourselves to abstract considerations of its unity and oneness as distinguished from the endless modifications of matter. But these hypotheses that have been framed to render more conceivable the otherwise inexplicable unity of soul and body, by means of attenuated fluids which mediate between them, " fluids subtle enough to be reckoned spirit," even by the system of pre-established harmony according to which body and soul never act on, but always along with, one another,—these hypotheses are, empirically considered, as difficult to sustain as to refute. How a material physical act in the nerve fibres or cells can be converted into an idea, an act of consciousness, is absolutely incomprehensible; indeed, we are utterly unable even to settle the question of the existence or nature of the media existing between them. All these matters are as yet only probable; in which state of affairs the simplest hypothesis is the best; and certainly the materialistic offers fewer difficulties, obscurities, and contradictions than any other, especially in relation to the origin of thought. Therefore, leaving out of view those possible but quite unknown mediating events, it is scientifically admissible to connect the faculties of the soul with the body in the same intimate relation as exists between function and organ —to consider the understanding and the will as the function, the special energy, of the brain, just as transmission and reflex action are considered the special functions of the nerves and spinal cord, and to consider the soul primarily and pre-eminently as the sum of all cerebral states.

Definite information regarding what takes place in the soul can neither be afforded by materialism, which would explain all mental acts by the physical, nor by spiritualism, which would explain the material by the psychical. And even if we did know all that takes place within the brain when in action—if we could penetrate into all the processes, chemical, electrical, etc., of what use is it? Oscillation and vibration, all that is electrical and mechanical, are still not mental conditions, acts of thought. How they can be transformed to these is, indeed, a problem which shall remain unsolved to the end of time; and I believe that if to-day an angel from heaven came and explained all to us, our understanding would not even be able to comprehend it.

What shall now be said of the flat and shallow materialism which would overturn the most general and most valuable facts of human consciousness because it finds no palpable trace of them in the brain? Empirical perception, in ascribing the phenomena of sensation, intellect, and will to the brain as its function, leaves not only the actual contents of the life of the human soul untouched in all its riches, and, in particular, maintains energetically the fact of free self-determination; it leaves also, naturally, the metaphysical question, what it may be that enters as soul-substance in this relation of the sensation, understanding, and will, which takes the form of psychical existence, etc. Empiricism must patiently await the time when the questions concerning the connection of the contents of the life of the human soul, with its forms, shall have become physiological instead of metaphysical problems. Meanwhile, would they but desist from the pursuit of unanswerable questions, from striving wildly in science, and from accusing each other of heresy by the mixing up of quite heterogeneous questions. Would the followers and fanatics of materialism but consider a point which appears to me not to have been hitherto sufficiently brought forward in the discussions of these questions. The elementary phenomena which occur in the nerve-masses must be in all men always identical, especially if they be considered (as is now believed by many) as essentially electrical, necessarily in the highest degree simple, consisting of + and −. How could the endless variety of thoughts, feelings, and desires, not only of individual men, but of different ages, proceed from these alone and immediately?

Any discussion concerning the materiality or immateriality of the mental processes cannot, therefore, in the present state of our knowledge, be decided; it would fall in part, and already in its first premises, together with the question of the internal changes in the activity of the nervous system. All comparison with the imponderables, which stand in a relation analogous to matter, and appear also as somewhat immaterial, provoke however material changes and modifications, are of but little service. The mental or nervous agent has no real analogue in the whole of the universe; the theory, as Locke has already shown, experiences the same difficulties, whether they allow to think the material, or whether they will comprehend the action of an immaterial agent upon matter. That the functions of the soul, moreover, must always be accompanied by material acts, no one denies; this relation is very well developed by Stiedenroth (i., p. 52, and a. a O.); only the idea which participates in the organic accompaniment is to him a real, and known, and—a still more fruitful proposition!—indeed, the more lively the organic accompaniment, the livelier the thought. Some phases of the mental processes are, moreover, evidently more closely associated with so-called physical events (with other acts of the organism) than others; for example, than pure and calm thought. Memory and love, says Aristotle ('On the Soul,' i., 4), do not proceed from the soul, but from the association of the soul and the body. Indeed, it is in memory and in love that a direct mixture of organic processes is most evident; the same may also be said of the imagination.

§ 5. In accordance with the foregoing statements, the question so frequently and so largely treated of by the earlier psychologists, whether insanity, in the anomalies of the understanding and will, the disease really affects the soul, finds a ready and an affirmative solution. Of course we must not speak of diseases of the soul alone—a pathology not less incorrect speaks of diseases of the vital processes, of the functions—but of disease of the brain, through which every act of the intelligence and the will is deranged.

§ 6. Although, however, every mental disease proceeds from an affection of the brain, every disease of the brain does not, on that account, belong to the class of mental diseases. What kind of brain affection, then, is it with which we have to do in insanity? Anatomically considered, the diseases whose symptoms are called insanity are of all the most diverse, simple irritations without perceptible changes of structure, inflammation of the cortical substance, atrophy, changes of nutrition, anomalies of the circulation within the cranium, intra-meningeal apoplexy, simple hyperæmias of the brain, etc. All these conditions, differing so widely from each other, can originate symptoms on account of which we send the patient to an asylum, and which are described in psychological works as mental diseases. All attempts strictly to distinguish insanity from the acute or chronic diseases of the brain, as they are described from the anatomical point of view—for example, meningitis, encephalitis, etc.—would be an undertaking most futile, for even certain cases of mental disease are really meningitis, encephalitis, etc. The idea of mental diseases being purely symptomatological in great measure accompanies these anatomical notions, and the objects of both do not admit of their being compared with each other. Only this much can in general be with certainty affirmed, that the brain affections which lie at the root of mental diseases are infinitely more frequently diffuse than localized.[1]

Cerebral pathology is, even in the present day, to a great extent in the same state which the pathology of the thoracic organs was in before the days of Laennec. Instead of proceeding in every case from the changes of structure of the organ, and being able to deduce in an exact manner the production of the symptoms from the changes in the tissue, it has very often to deal with symptoms of which it can scarcely give an approximation to the seat, and of whose mode of origin it is totally ignorant. It must keep to the external phenomena, and establish the groups of diseases according to something common and characteristic in the symptoms altogether independently of their anatomical basis. As with epilepsy, chorea, etc., so also with psychical or mental diseases, under which we include all those affections of the brain in which anomalies, derangements of the understanding and of the will, constitute the most striking symptoms.

The ordinary diseases of the brain, circumscribed inflammation, abscesses, tumors, tubercular meningitis, etc., are not termed mental diseases, even although in these affections the mental faculties are usually more or less deranged, because other cerebral symptoms, those of disturbed sensation and movement in general, greatly predominate: *a potiori fit denominatio*.

Exceptionally, however, such patients are also considered as mentally diseased, and are sent into asylums, when, for example, the case assumes from the first the chronic form, when maniacal excitement sets in very early, etc. On the other hand, in mental diseases the sensitive and motory functions of the brain are very commonly also disturbed; but this disturbance is subordinate,—the psychical appear as the leading phenomena. More minute definitions of mental diseases cannot and need not be given here; their general diagnosis will be found in the 2d section, chapter 5th of this book.

§ 7. As insanity is only a complication of symptoms of various morbid states of the brain, the question might be asked, whether its special study apart from that of the other diseases of the brain can be justified, or whether mental pathology should not rather always accompany cerebral pathology? But, although at some more distant period this may perhaps be looked for, any attempt at such a combination would at present be premature and quite impracticable. If the intimate fundamental union which exists between insanity and the other cerebral diseases be only constantly kept in view,—if in the one, as in the other group, the same exact anatomical physiological method be as far as possible pursued,—cerebral pathology will not be retarded, but rather advanced, by the formal specializing and monographical elaboration of these diseases classified according to their symptoms. As psychiatrie must assert the position so lately obtained for it—as a part of cerebral pathology, and as several of its practical phases, asylum economy, its medico-legal bearings, etc., invest it with an extent and character peculiar to itself, which under all circumstances, even when viewed as a part of cerebral pathology, keep it distinct, any attempt to obliterate that distinction would at present be still less justifiable.

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[1] See "The Diagnosis of Brain Diseases," a paper by the author, 'Archiv der Heilkunde,' Leipzig, 1860, part i., p. 51.

The earlier attempts completely to combine the mental diseases, based upon their corresponding anatomical changes, with the cerebral diseases, were proved by their want of success to be premature and impossible (Sc. Pinel, 'Pathologie cérébrale,' Paris, 1844). And just as when, quite recently, one of our most eminent physicians attempted to study a department of mental diseases from a purely anatomical point of view (Calmeil, 'Traité des Maladies inflammatoires du Cerveau,' Paris, 1859, 2 vol.), so this praiseworthy attempt treats, from the nature of the question, only of a part of these conditions. Thus psychiatrie will long remain a special branch of medical science; its special study also gives to the physician opportunity to acquaint himself, in some degree at least, with the phenomena of mind of which, unfortunately, so little knowledge is in general attained in the ordinary course of medical study.

§ 8. Insanity being a disease,[1] and that disease being an affection of the brain, it can therefore only be studied in a proper manner from the medical point of view. The anatomy, physiology, and pathology of the nervous system, and the whole range of special pathology and therapeutics, constitute preliminary knowledge most essential to the medical psychologist. All non-medical, more particularly all poetical, and ideal conceptions of insanity are as regards its study of the smallest value. Several poetical representations of madness are excellent in certain points, and evidently drawn from a study of nature (as Ophelia, King Lear, and particularly Don Quixote); but, as the poet has almost entirely evaded the organic causes of these states, looking only to the intellectual side, regarding them as the results of former moral conflicts, and only requires to bring forward that which serves this end, his delineation is at least one-sided. A similar reproach is applicable to the manner in which the moralists consider the subject, and still stronger, on account of the earnestness with which some such attempts appeared. Nothing is more false, nothing is more opposed to everyday observation, than any attempt to transpose the nature of the mental diseases into the territory of morality. Facts speak loud enough, it is true, in favor of a very frequent psychical etiology of these diseases; how can it be otherwise when moral causes are amongst the weightiest, and most frequent, of the other diseases of the brain and nervous system. The present state of the understanding and will is essentially dependent upon, and is indeed to a great extent the necessary result of, the sum of all the previous thoughts and wishes, and, as a consequence, the intellectual life becomes a fruitful scource of the causes of insanity. But whilst the sphere of morality is contained entirely within that of free and conscious thought, the starting-points of the anomalous mental processes to which these cerebral diseases give rise belong to quite another territory. It is from obscure perversions of the inner consciousness, that in insanity the states of the mind originally emotional, proceed; and where these have given birth to a perversion of the judgment and inclinations of the patient, he is already in a state where the first condition of all morality, self-consciousness, the power of deliberation, of choice, are wanting, and his acts, be they what they may, can no more be the object of a moral appreciation.

Poetical and rhetorical representations of insanity are not only unnecessary and false theoretically, but even practically they are positively dangerous. Through these the laity are filled with representations of mental diseases which do not in the remotest degree resemble nature: if, then, the facts do not correspond with their ideas, they doubt whether mental disease be present. How natural is the astonishment of many persons, when visiting an asylum, to find the inmates so very different from what they expected! Psychological theories, which represent mental diseases as the highest pitch of the passions, lead many into such errors.

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[1] A disease which also causes death. When a recent writer says, lunatics die as little from insanity as other men from soundness of mind, he tries a wretched antithesis. It is evident that no one dies from sound health, mental or bodily.

Any serious controversy, however, regarding the moral view of mental diseases, is nowadays unnecessary. It would be even superfluous to oppose to this doctrine the numerous cases where insanity is produced by causes purely physical —by injury to the head, by narcotics, etc.; its hereditariness, the family predisposition, often showing itself in other relatives, as a disposition to other severe neuroses, epilepsy, hysteria, etc.; its various types, which often affect the course of insanity as that of other nervous diseases; its occasionally observed interchange with other diseases, the possibility of rapid cure, its analogy with dreams, etc. The best refutation, however, is the simple examination of the progress of the symptoms of insanity.

CHAPTER II.

PRELIMINARY ANATOMICAL OBSERVATIONS.

§ 9. In a paper[1] published in the year 1844, I have already called attention to the universally demonstrable pathological analogy which exists between the diseases of the brain; also, in as far as they present by preference anomalous mental symptoms, and the functional disturbances, and deeper organic lesions, of the spinal marrow. This comparison is justified not only by the facts there stated, that both sections of the central nervous system are liable to the same forms of morbid action, which only show themselves very differently according to the originally given difference of their energies, but it has also its basis in the normal and pathological anatomy, which teaches us to recognize in the brain and spinal cord a single, only artificially divided, whole, and exhibits to us, in both, the same general dispositions, the same elementary tissues, and also the very same pathological changes.

Presuming that the reader is acquainted with the general anatomy, the divisions of the brain and spinal cord, the structure and diposition of their membranes, we shall here premise only a few remarks upon the structure and connection of the central nervous system, which, further on, will explain certain physio-pathological results, and upon the review of the healthy and morbid state of the brain.

§ 10. The brain and spinal cord form a whole, whose different sections present essentially the same elementary structure, and a common, though constantly progressing, type of organization.[2]

As the vertebrated structure of the bony envelope of the spinal cord recurs in a more highly developed form in the skull, which is composed of a number of bones, so also the cranial portion of the central nervous system consists of a complicated multiplicity of nerve-masses, which at first sight appear not to have the same general structure as the spinal cord, but in which, nevertheless, in spite of many important differences, an analogy with the spinal cord and its immediate envelopes may be recognized.

The central canal of the spinal cord, which is seen most distinctly in the embryo, but also still perceptibly in the adult, and which is completely inclosed by gray substance, opens at the level of the fossa of the ventricle of Aurantius, closes again at the fourth ventricle, and forms in the interior of the cerebrum the third and the lateral ventricles, in which it terminates in the infundibulum.

The gray substance of the spinal cord is in direct communication not only with the sensitive and motory roots of the nerves which pass in and out of it, and with its white longitudinal columns, but also with the gray substance of the brain. After it has extended into the medulla oblongata, partly upon the surface, and partly by entering into the corpus fimbriatum of the olivary bodies, and into the corpora restiformia, it communicates with the corpus rhomboideum of the cerebellum; then in its further passage forwards, with the gray substance of the crura cerebri, the corpora quadrigemina, the optic thalamus, and corpus striatum; and ends, at last, in the infundibulum or in the anterior perforated substance. The continuation, therefore, of the gray substance of the spinal cord into the interior and upon the base of the brain, forms a connected system of gray lines and masses. Another system of gray substance is, however, found in the brain, viz., the cortical substance of the hemispheres, which everywhere covers the surface of the convolutions except in one point—the gyrus fornicatus. This mass of gray substance communicates directly with the first system in only one point, at the substantia perforata, and this connection is formed through the medium of white fibrous tracts; in the spinal cord itself it has nothing analogous. It forms the point of common termination for the system of the extended columns of the spinal cord, and for the system of fibres which arises within the cranium and does not pass out of it.

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[1] 'Archiv f. physiolog. Heilkunde,' iii., 1, p. 69.

[2] Compare Arnold, 'Bemerkungen über den Bau des Gehirns und Rückenmarks,' Zürich, 1838. Valentine, 'Hirn- und Nervenlehre,' Leipzig, 1841. Foville, 'Anatomie du Système nerveux cerebro-spinal,' Paris, 1844. Longet, 'Anat. et Physiol. d. Syst. nerv.,' 1842. Huschke, 'Schädel, Gehirn und Seele,' Jena, 1854. Gratiolet (Leuret), 'Anatomie comparée du Syst. nerveux,' tom. ii., Paris, 1857.

The cortical gray substance of the great hemispheres presents a stratified structure,[1] and consists of from four to six layers of substance alternately opaque and transparent; their difference depends chiefly upon the greater or less quantity of cell elements entering into their composition. The most external layer is in direct connection with the surface of the ventricles. These superficial layers of the cortical substance of the brain present frequently changes, and more seldom disorganization, in the insane. The minute structure of this substance is not the same throughout.[2] It is composed, fundamentally, of nerve fibres, which proceed from the white substance and in entering subdivide until they become very fine; secondly, of peculiar granules, which are directly connected with the ultimate termination of these fibres; thirdly, of ganglion cells, which are in part direct prolongations of nerve fibres, or continuations of the granules; fourthly, of an apparently homogeneous and structureless molecular mass, which is considered by some as cellular tissue having a purely mechanical function, that of nerve cement, but which, at least in the cortical substance, presents an extremely fine network in which the ultimate terminations of the white nerve fibres and the continuations of the granules are finally lost, a canalicular tissue communicating on all sides, and which seems to conduct to every part, and consequently to render possible the transmission to all parts, of the states of the brain.

As these elements of the gray substance present in different parts of this apparatus a different arrangement, the inference may be drawn of differences in function. Thus, in some parts, the granules form a special and important layer in the most inferior part of the gray substance (in the cortical gray substance of the cerebellum and in Ammon's horn); whilst in the cortical substance of the cerebrum they do not form a special layer, but are more isolated. Thus, the gray substance of the cerebellum contains chiefly great cells; that of the cerebrum, on the contrary, besides a number of large cells, contains chiefly small ones (Jacobowitch, sensitive cells): besides, these cells are sometimes separated, in some places more scattered, and in others congregated in special layers. The fine fibres which proceed from the white substance extend in the cerebellum almost exclusively to the most inferior layers of the gray substance; in the cerebral convolutions they penetrate farther into it, giving off fibrous elements to almost all its layers, and they here appear to run horizontally. In some places the axes of the white fibres appear to pass into the prolongations of the ganglion cells; in other places their ultimate termination appears to be in the granules (cerebellum). In certain parts of the gray substance, as in Ammon's horn, a considerable system of fibres appears to originate in the thick layers of cells which does not proceed farther than to another layer of the same substance where the fibres immediately terminate. Thus the relatively little which we as yet know of the intimate structure of the gray substance permits us to suppose, not only very great differences in the phenmoena of this extremely delicate apparatus, but also that these phenomena are essentially different in the various parts of the brain.

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[1] Baillarger, 'Mém. de l'Acad. de Médecine,' viii., 1840, p. 172. Remak, 'Müller's Archiv,' 1841.

[2] Compare Gerlach, 'Microscopische Studien,' etc., Erlang., 1858. Hess, 'De Cerebelli Gyrorum Structura,' Dorp., 1858. Berlin, 'Beiträge z. Structurlehre der Grosshirnwindungen,' Erlang., 1858. C. Kupffer, 'De Cornu Ammonis Structura,' Dorp., 1859. Stephany, 'Beiträge z. Histologie der Rinde des grossen Gehirns,' Dorp., 1860.

§ 11. The white substance of the brain is composed of the well-known transparent primitive fibres; in general they are here very fine; they subdivide many times within it, and it appears afterwards penetrate into the gray substance, which contains their ultimate divisions, their points of termination or of origin. That a certain portion of the white substance of the brain is formed by direct continuations of the three columns of the spinal cord of each side, which, however, undergo a complete process of decussation, is beyond doubt: for example, portions of the posterior and lateral columns can be easily traced into the cerebellum, portions of the anterior columns into the corpora quadrigemina, the corpus callosum, etc. ; and, according to undisputed researches, it is admitted that continuations of all three columns of the spinal cord enter into each of the great ganglion-like enlargements which constitute the brain. It is evident, however, that these prolongations constitute but a small portion of the bulk of the white substance. New systems of fibres enter into its composition: these are not only the central expansions of the nerves of sense, which on their entrance into the brain substance subdivide, disperse themselves in various directions, and, amongst other things, appear to form a larger membranous expansion in its interior, but also the new systems of fibres furnished by the commissures, and the so-called investing membrane (*Belegungssubstanz*).

It would be of great importance to know the conditions of mixture and of disposition of each of these systems of fibres, and their relation to the corresponding prolongations of the three columns of the spinal cord. Hitherto the efforts made to elucidate this point have not been fully successful, but recently an advance has been made in unravelling the different systems of fibres of the white substance of the brain. According to the present state of our knowledge, the following principal systems are found in it.

(1.) The system of fibres of the corona radiata (*Stabkranz*). These enter into all the convolutions of the external surface of the hemispheres, especially at the posterior parts, and extend even to the summit of the convolutions. A preponderating relation to the motory functions may be attributed to this system of fibres. The corona radiata is not simply the prolongation of parts of the medulla oblongata; this is evident from the remarkable size which it presents in man in proportion to that of the medulla oblongata. In most of the lower animals the reverse is the case; the corona is relatively smaller than the medulla.

(2.) The expansion of the corpus callosum. The corpus callosum (like the pons Varolii in the cerebellum) ought to be considered as the analogue, more highly developed, of the anterior commissure of the spinal marrow. It appears to be formed principally by the fibres of the corona, which in passing forward cross here, and pass to the hemisphere of the opposite side; therefore the dependence of each half of the body upon the oppossite hemisphere. The fibres proceeding from the corpus callosum radiate to all the convolutions of the hemispheres, especially, however, to their internal and superior parts.

(3.) The system of fibres of the anterior commissure; of which a part suddenly terminates in the inferior convolutions of the middle lobe of the brain, another part enters into the posterior lobe, from which it spreads over the whole extent of the superior border of the hemispheres. The anterior commissure appears, therefore, to be in man an apparatus of connection between the two hemispheres in their totality (in many animals rather a connection between the olfactory lobes). The high psychical function which by some has been attributed to this system appears to me to be in the highest degree doubtful; the very considerable size which it presents in the Kangaroo (Gratiolet) seems rather to indicate that it has some connection with the movements of the lower extremities.

(4.) The expansions of the nerves of sense within the brain, and in particular of the optic nerve. A fan-formed expansion can be distinguished within the hemispheres passing from the optic tract to the summit of the posterior lobe; other such radiations pass forwards in all the anterior convolutions, the high development of which is characteristic of the human brain. The optic nerve and its roots are in the human species relatively small, but the expansion of the nerve within the brain assumes an extraordinary development. This expansion is not to be considered throughout as a simple continuation of the fibres of the nerves itself, but rather as the result of a multiplication of these, or of the addition of a new system of fibres to the optic nerve. This high development of the expansion of the optic nerve appears to constitute an essential characteristic of the human brain, and also of that of the higher apes, and to represent an apparatus devoted to some of the most important mental functions. In nearly all mammiferous animals the impressions of sight appear to excite, to a very great measure in the corpora quadrigemina to which the comparatively large, in many animals perhaps only root, of the optic nerve proceeds, much more simple and more immediate reflex actions; in man, on the contrary, most impressions transmitted by the optic nerve appear to experience in that expansion within the cerebrum a further psychical elaboration (by combination with fibres and ganglion masses of other systems), before acting upon the movements. There appears to exist within the cerebellum, and likewise within the cerebrum, an expansion furnished by the auditory nerves; it appears to enter, with the continuation of the fibres of the posterior column of the spinal cord, through the optic thalami into the hemispheres.

(5.) Special systems of fibres which pass from one convolution to another, and line the internal aspect of the cortical substance. To these systems the fibres of the gyrus fornicatus appear to belong, which radiate in all the convolutions of the internal aspect of the hemispheres; the arciform fibres also constitute commissures between the different parts of the same hemisphere. While in the gray substance conduction and communication of impressions to all parts is provided for, these fibre systems of the white substance appear to furnish likewise a most complete means of communication between all parts of the hemispheres.

The prolongations of the posterior columns of the spinal cord, or, at all events, the bundles of fibres in direct communication with them, give off successive portions to the cerebellum, the corpora quadrigemina, the optic tract, and the hemispheres. According to Foville, whose researches moreover require confirmation in many points, there exist within the cerebrum two large groups of fibres, distinct in their mode of disposition but interlaced with one another, one of which is connected to the anterior and lateral columns, the other to the posterior columns. To the latter group, which is much the more important, belong not only the successive enlargements which are found upon the axis of the brain, the corpora quadrigemina, the optic thalami and corpora striata with their gray kernels, but also all the corpus callosum, the septum lucidum, and the fornix with its dependencies, which all surround, in a circular manner, the cone of fibres which proceeds from the anterior and lateral cords, penetrates the gray masses of the thalamus and corpus striatum, as a flattened trunk, and ramifies in the interior of the great hemispheres. According to Foville, the nervous membrane of the surface of the ventricles, and (as that in Ammon's horn is prolonged into the white, most external lamella of the cortical substance) the entire surface of the brain is intimately related to the prolongations of the posterior cord, so that the prolongations and dependencies of the lateral and anterior cords, from their entrance into the thalamus onwards, remain absolutely hidden in the interior of the portions furnished by the posterior cords, and never step out upon the surface itself. A relation would here exist similar to what is seen in the distribution of the peripheral nerves, where the cutaneous and mucous surfaces are likewise supplied chiefly by nerves of the posterior columns, while the nerves from the anterior and lateral columns are distributed principally to the subadjacent muscular layers.

According to this view the brain, as a whole, would have to be considered as a great ganglionic enlargement, which, like the spinal ganglia, belongs primarily to the prolongations of the posterior cords, but in which the prolongations of the anterior and lateral cords not only enter most intimately into the composition of the ganglia, but even originate in them (the gray cortex). From this point of view the cerebrum would represent then an enormous ganglion resulting from the blending of the optic and olfactory nerves; the cerebellum would represent a similar one resulting from the auditory nerve and fifth pair. This appellation ganglion may be allowed to remain; a more minute definition would lead to the conclusion that both brains form the inner expansions of a central, and partly special, nervous system, in which the immediate prolongation of the columns of the spinal cord are combined most intimately with new masses of gray substance, with new systems of white fibres, in particular the central expansions of the nerves of sense—a circumstance the physiological importance of which is shown by the very great and important part which the central function of the senses plays in almost all our psychical acts.

§ 12. The cerebellum, therefore, contains prolongations of the three columns of the spinal cord in the compact mass of medullary layers which forms the kernel of the cerebellum and its immediate envelopes, and this kernel is, according to Foville, surrounded by a membranous expansion of nerve substance which lines the internal surface of the cortical substance, and is formed by prolongations of the auditory nerve and of the fifth pair. Both nerves send, besides, prolongations into the layers of fibres of the kernel, which are lined in their interior by the gray fringed membrane of the olives of the cerebellum.

From the lateral columns of the spinal cord an important contingent goes with the corpus restiforme into the cerebellum; these fibres go principally to its hemispheres, few if any of them go to the middle portion. The fibres of the pons Varolii also go to the lateral parts. The white substance in the interior of the cerebellar hemispheres, which immediately surround the olives, comes principally from the processus cerebelli ad corpora quadrigemina, the only point of direct communication between the cerebrum and the cerebellum. The fact of the entrance of a root of the auditory nerve with the corpus restiforme into the kernel of the cerebellum is confirmed by Gratiolet. Guillot ('L'Expérience,' II., 1838, p. 497) has published a case of Notencephalie in which the auditory nerve and the fifth pair entered into the vesicles which corresponded to the cerebellum, the optic and olfactory nerves into the parts which represented the cerebrum. It is certain, however, that the perceptions of sound do not take place in the cerebellum. The little that can be said regarding the functions of this part of the brain is reduced to this, that it appears to have more to do with the movements of the vertebral column and the trunk than with those of the extremities; probably also it presides over the movements of certain portions of the viscera (the genital organs). For all this many relations of the auditory nerve and the fifth pair have yet to be discovered. The cerebellum appears to have very little to do with the higher mental functions.

The *corpora quadrigemina* also are evidently organs of very little importance psychically. In man and in the higher animals they are always smaller in proportion as the hemispheres are larger. They have an evident relation, and are indispensable, to the sense of sight; principally, however, they constitute the apparatus of the reflex action exerted by the sense of sight upon great combined muscular movements.

In the *cerebrum* prolongations of all three columns of the spinal cord are likewise grouped together, so that the anterior and lateral parts radiate towards the exterior, are surrounded by the fore-mentioned ring-like structures, and at last penetrate upwards in the centre of the convolutions, into the gray cortical substance (there originate?). The white masses of the hemispheres are not connected with the mass of peripheral nerves, or with the columns of the spinal cord, but with the cortical gray substance; the surface of which, according to Baillarger, has an area of 1700 square centimetres,[1] not in relation to outward sensation and muscular movement, but to the intelligence.

Of these three accessory structures (cerebellum, corpora quadrigemina, and great hemispheres), which are superadded to the cerebral kernel to the spinal marrow in the brain, it is always the last which stands in the most immediate relation to the mind. Unfortunately their functions are of such a nature that they (like those of the cerebellum) escape, to a very great extent, being experimented upon. Their very extensive motory function presides rather over the movements of the extremities, especially of the arms, of the tongue, and the countenance, than over the movements of the trunk; the hemispheres are the seat of all consciousness, of all deliberations, and from them seem to proceed all these extremely complicated acts intermediating between the sensorial impressions and the abstract psychical phenomena, and, again, between these last and the movements; the limits to which special psychical life may extend, and at which sensation and movement cease, are almost arbitrary. Think of the endless multiplicity of the movements of the tongue in speech, of the elaborate uses of the limbs, especially of the hands, what innumerable intuitions and impulses of movement must here take place, in the central organs, with a rapidity and harmony which are unequalled. These faculties alone must necessitate a far greater development of the hemispheres in man than in any other animal. We often observe in diseases, in localized injury of the hemispheres, that the media between the word thought and the movement of the tongue, between determination and the use of members, are suppressed; here a great deal appears as paralysis which is certainly due to no direct affection of the motory apparatus, but of *psychical* function. Think, on the other hand, of the endless multiplicity of phenomena which we can neither name nor demonstrate, which are produced, for example, between the impressions of sight and the abstract ideas; these phenomena are also produced by causes which lie in the apparata of the hemispheres. This transformation of the perceptions being much stronger, more varied, and more developed, in man than in any other animal, it must be admitted that more complicated arrangements are required.

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[1] Average of three brains, 'Annal. Méd. Psychol.,' 1853, v., p. 1.

The two nerves of the cerebrum, the optic and the olfactory, communicate with the surface of the ventricles, and are connected by the expansions of their roots, with almost all the fundamental parts of the brain.

As the blind termination of the ventricles, the infundibulum, possesses at its inferior part a particular appendage, of whose function we are ignorant, the pituitary body, so there exists superiorly, upon the delicate blind expansion of the ventricular cavity which forms the inferior surface of the corpora quadrigemina, an analogous appendage, the pineal gland. The analogy is still more striking when the configuration of the neighboring parts is considered; in the one case we have the mammillary bodies, in the other the corpora quadrigemina, but while one of these, the pituitary body, is only in connection with the gray substance, the other, the pineal gland, communicates only with the white substance. These structures appear to have no connection with the psychical and sensorial functions.

§ 13. In the examination of the brain in the body of one who has been mentally diseased, the state of the cerebral coverings should, in the first place, be minutely investigated. In the skull, one should not only notice those deviations of form which admit of being easily estimated, such as marked obliquity, knotty curvature, convexities and concavities, but should also give the measurements of its various diameters, the thickness and texture of the cranial bones, and the degree of ossification of the sutures; this in young persons being somewhat morbid. It is necessary to observe whether the skull presents on its internal surface any nodes, or sharp osseous projections, to examine the foramina which give passage to the great vessels, and also the great veins and arteries themselves, with reference to contraction, dilatation, or degeneration. The degree of repletion of the sinuses, and the condition of the blood they contain, ought to be mentioned. In estimating the amount of blood contained in the membranes and in the brain itself it is necessary always to bear in mind the total quantity of blood in the body, as a considerable quantity of blood within the cranium in great general plethora is of much less significance than in opposite anæmic conditions. In the healthy brain the pia mater and arachnoid are thin and translucent; there is, it is true, a degree of opacity along the line of the longitudinal sinus, and great veins which is of no signification in adults or old persons; in youth, however, it is important, as it marks the previous existence of prolonged hyperæmia. The same may be said of the Pacchionian bodies, and this is also true with regard to the amount of serum within the cranial cavity, it being also more considerable in old men. When the brain is healthy, and freshly taken from the skull, the membranes are easily detached from the surface without bringing with them portions of the cerebral substance, except, perhaps, small and separate flakes. The contrary is the case when the brain is diseased. The convolutions should lie close to one another, and their surface should be smooth and uniform: an unequal rough pitted surface is characteristic of atrophy of some of the convolutions, which is likewise of less significance in old age. In a healthy brain the whole of the gray substance should contrast strongly with the white substance; the inner layer of the cortical gray substance ought to be a little clearer than the more external layers. The white substance ought to be firmer than the gray; some parts, as the pons Varolii and the medulla oblongata, are of firmer consistence than the mass of the white substance. Moreover, the consistence of the brain ought to be uniform over all, and partial indurations and softenings are of greater significance than the degree of consistence, the hardness or softness, of the brain as a whole.[1]

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[1] The weights of the brain have not the great value which was formerly attached to them : the more important points upon this subject will be considered in the Fourth Book.

CHAPTER III.

PRELIMINARY PHYSIO-PATHOLOGICAL OBSERVATIONS ON MENTAL PHENOMENA.

§ 14. THE function of the spinal marrow is to conduct impressions to, and impulses of movement from, the brain. Besides, and this is its principal function, it produces the more simple reflex acts, the transformation, still pretty direct, of sensations into movements. It is the gray substance which is the seat of the mediatory functions between this double centripetal and centrifugal current; reflex action constitutes one of its specific functions. But the gray substance also conducts from and to the brain. Towards the brain it conducts certain qualities of sensation which could not be conducted by the posterior column, which evidently also originate in the gray substance itself, and constitute a sort of "psychical" modification and transformation of the centripetal impressions. Inversely, the impulses of movement from the brain do not appear as yet to possess all the qualities necessary to isolated muscular contractions. It appears to be in the gray substance that these impulses are first elaborated and arranged in a proper manner.

All the impressions transmitted through the spinal cord, and those proceeding from the nerves of special sense, sight, hearing, etc., are collected in the brain. There, without being confounded the one with the other, they meet, are combined, associated, brought into the most manifold relations and combinations, and awaken within the brain other new, but purely subjective, internal images. All these images leave behind traces or remains, of which the combination produces again certain general results (Abstractions), and, quite involuntary, in the moment even of their production, they are already logically elaborated, collected, and associated in judgments, conclusions, etc. All these phenomena are evidently intimately related to the activity of the sensorial sphere of the brain. But the brain is also an immense reflex apparatus, in which all these states of sensorial excitation, of which this organ is almost constantly the seat, are transformed into impulses of movement. Here also, to a certain degree, simple immediate reflex actions from sensory excitations to muscular contractions take place; generally, however, they are of a very complex nature, as starts from fright, harmonious movements, and the like. Much more characteristic of the brain, however, are the reflex actions from those already elaborated results of very many sensorial acts, modified by opposing influences, and which have become more or less abstract. They are followed, on the motory side, by reflex actions which do not manifest themselves in immediate muscular contractions, but tend rather, only to the excitations and to the most general ideas or consequent muscular movements of the greatest complexity and variety (actions).

All these functions ought also, by analogy, to be attributed principally to the gray substance of the brain, and in particular to the *cortical* gray substance of the hemispheres; the great extent of whose surface constitutes one of the chief characteristics of the human brain, which is very often found altered in mental disease, and has been long declared by many to be the seat of the "intellect" and of the "will." The intellect is, it is true, a result of many and very complicated acts, to which, also, the process of transmission is indispensable; but this even, and indeed in the most complicated manner, ought also to be attributed to the gray substance. Between the perceptions and the ideas which they originate as between volition and the resulting acts there are many intermediate conditions; these will have to be sought for principally in the white system of fibres, and here, as has been already remarked, it is impossible to fix the limit where what is specially psychical begins.

The walls of the ventricles appear, moreover, to be of considerable importance in regard to mental function; this appears to be shown by observation, where there is a large accumulation (especially if rapid) of cerebro-spinal fluid, and where its constitution is altered with superficial maceration of the ventricular walls; in those cases there is always deep dementia, a state of stupor, etc.; several pathological anatomical observations upon the insane also show this. If we can, on this account, limit the mental processes principally, but not exclusively, to the cerebral gray substance, it appears on the other hand very probable that all the free surfaces of the brain, the cortical gray substance, as well as the ventricular walls, are especially related to the mental processes; that their healthy action depends upon the integrity of this free surface of the brain and that it is principally disturbances in it which give rise to the symptoms of insanity. On the other hand, where disorganizations occur somewhat deeper in the cerebral substance, disturbances of movement are seldom absent; and they generally accompany the mental derangement when the lesion extends from the surface of the ventricle, or the cortical substance, deeper into the interior of the brain. Limited inflammations in the white substance (without pressure on the brain) never give rise to great disturbances of the higher mental faculties; occasionally they cause no disturbance at all, as if the semi-oval centre had no function. It appears to be chiefly a medium of transmission, but transmission may take place by several ways, and so be enabled to avoid the injured part.

§ 15. The central nervous system, which expands itself in the hemispheres, is double and symmetrical, like the peripheral nervous system. We do not, however, think double with our two hemispheres any more than we see double with our two eyes. In explanation of the unity of the thoughts, as well as of the impressions of sense, we must look to the middle simple parts of the brain, the commissures. It is certain, however, that injuries and disorganizations affecting both halves of the brain, even when they are relatively unimportant, give rise to much more serious and more general symptoms, especially of a psychical kind, than diseases limited to one side. Therefore, when anatomical changes are found in the brain in mental disease, these changes, although often unimportant in themselves, almost always affect both sides, and a wide extent of structure (Hyperæmias, Atrophy, etc.).

Cases have been recorded in which, with very considerable atrophy of one of the great hemispheres, the mental faculties have remained intact. One hemisphere, therefore, may suffice for the performance of the mental functions; yet it has been observed, that in these cases the mind is very easily fatigued. It seems that in such circumstances the activity developed by the one hemisphere can go on only for a short time with a certain energy, as if in health a continual interchange of function between both, or a distribution of the mental activity over the two hemispheres, took place.

The opinions of Wigan ('Duality of Mind,' London, 1844), who assumes a complete duality of the mind in the two cerebral hemispheres; the conjecture of Holland ('On the Brain as a double organ, Chapters on Mental Physiology,' 2d Ed., London, 1858, p. 179), that many mental disorders, especially the states of mental disunity and internal contradiction, depend upon a disharmony in the functions of both hemispheres; and lastly, the recent attempt of Follet to refer mental aberrations to "disturbance in the equilibrium of the innervation of the two hemispheres," are wanting in sufficient proof.

In a single case of quite recent disease melancholia, with ideas of persecution, attempts at suicide (a brother being insane), we have heard the patient, who could still give a good account of his state, say that he felt very well; that he was deranged only on one side, the right side of the head. Analogous cases have been published. Friedreich, 'Allgem. Pathologie der psychischen Krankheiten.' Erlangen. 1839, p. 61; and Demme, 'Ueber ungleiche Grösse beider Gehirnhälften.' Wurzburg, 1831, p. 78. We are not disposed to attach much importance to these facts.

§ 16. The psychical life of man, as of other animals, commences in the organs of sense, and the constant current as which we perceive it, passes out again into the organs of movement. The transformation of the sensitive excitation to the motor is the foundation of the scheme of reflex action, with or without sensitive perception. In the lower animals and in children, simple forms of this psychical taking in and giving out can be observed in different degrees of development. Here we see, little modified and influenced by clear and energetic perceptions, changes of the sensitive impressions into motory excitation in the impulses to lively movements in the immediate saying and acting according to the momentary impressions of sense. Between these two fundamental acts of the psychical life something else is interposed, excited by the sensation, a third element, which presents, it is true, some analogy to the sensation, and is in the closest connection with it, but is not really it. It forms, as it were, an accessory sphere which treads midway between sensation and motory impulse, and, as it grows, acquires richness and extent; it becomes gradually a powerful, and in itself a complex centre which rules in many relations sensation and movement, and within which moves the whole mental life of the man. This sphere is that of the intelligence.

All mental acts take place within the intelligence. This is the special seat of thought, and all the various mental acts which were formerly designated separated faculties (imagination, will, emotions, etc.) are only different relations of the understanding with sensation and movement, or the result of the conflicts of ideas with themselves.

What is, properly speaking, intelligence, what occurs within the brain when one thinks, nobody knows, but the forms of its procedure are accessible to observation, and the locality where it performs is not unknown. All seems to indicate that it, at all events proper, clear, evident, thought, is referable to the cerebrum. And, moreover, it may with reason be said, that thought is an act most closely related to, and is even to be reckoned amongst, the inner sensorial functions. There appears to occur in perception essentially, on the one side, a subjective (generally very weak, languid) excitation of the sensory centres, and on the other side, a combination of several, and many of these excitations into a general image (Abstracts), and moreover, one can put to flight each of those impressions from which the whole has resulted.

In the wider sense of the term (in the sense which, for example, the word is used by Herbert) every intellectual act, active or passive, and naturally also sensation, is a perception. Sensation is a perception which has arisen in the brain through immediate transmission of an excitation that has acted upon a centripetal fibre. A great number of other perceptions are not immediately provoked by irritation of the sensitive nerves, but are produced internally by the functions of the brain which are independent of all sensorial excitation. They are also intimately dependent upon the traces which former sensorial impressions have left in the brain, and with the inward phenomena of the sensation.

We speak of the "perceptions" sometimes only as of things known, that is to say, which are actually presented to the mind with a certain degree of force and clearness: sometimes also we speak of them as absent (apparently concerned in the memory, but, in fact, existing rather in the state of dispositions). There is in intelligence an actual, though to us an unconscious life and movement; we recognize it, however, by its results, which often suddenly make their appearance from some unexpected source. A constant activity reigns over this almost, if not wholly, darkened sphere, which is much greater and more characteristic for the individuality than the relatively small number of impressions which pass into the state of consciousness. A number of physical irritations, of impressions from the interior of the organism, strike at first, and even so to speak exclusively, this sphere, and, quite unconsciously to us, act upon it, and modify the occurrences which take place within it. The occurrences, the movements which are produced within this sphere, contribute greatly towards the regulation of the character; the direction of our tastes, the guidance of our sympathies and antipathies.

Great and rapid changes in the ideas are occasionally (though very rarely) accompanied by perceptible occurrences in the head, by a feeling as if something opened or shut itself, as if a slight jerk were received, like the gathering and scattering of clouds. Guislain, 'Leçons Orales,' II., page 178, and Trelat, 'Annal. Méd. Psychol.,' 1856, VIII., p. 175, mention such cases; and a case is also known to myself in which I am certain that no deception took place. It is not, of course, to be thought that, in these cases, changes *in the cerebral processes* are felt; it appears rather to be events which take place in the membranes, changes in the amount of blood they contain, perhaps in the distribution of the cerebro-spinal fluid, or the like.

§ 17. We have been led to consider the whole brain as two ganglia upon the nerves of sense, in which the central expansions of these unite with new nerve substance. In accordance with this, we find, in the analysis of the intelligence, that the constant, simultaneous, and reciprocal action of the mental activity with the central sensorial activity is of primary importance. Not only is the intelligence constantly awakened, excited, and entertained by the sensorial impressions, not only does the reverse very often occur, the sensorial function being laid claim to and excited by the intelligence (hallucinations, illusions, delusions, etc.), but all our perception, if it be only somewhat clear, ought constantly to be accompanied by some degree of sensorial activity, by feeble and vague sensorial images. The plainest and clearest perception is that which occurs with the aid of the sense of sight, in which visual images essentially enter, whence also the supposition is most probable that it belongs to the ganglion of the optic nerve, to the brain; in the intelligence of animals, where the olfactory nerve forms very extensive expansions upon the ventricular walls, the perceptions of smell may indeed play a very important part. On the contrary, the ideas resulting from pure sensations of sound (for example, the musical idea) are very vague, undecided, and very difficult to express; and it is very remarkable that for the expression of this idea—which consists simply of joint impressions from many analogous objects, wherein the concrete element is effaced, and for which, therefore, it can never give a sufficient, adequate institution, especially for the purpose of intelligible perception—we have no other means at our disposal than again sonorous images, namely words.

Speech is a process much too complicated to admit of its being referred to any particular part of the brain. Some parts on its lower portion, the surface of the fourth ventricle, the olivary bodies, which are in man more fully developed than in any other animal, may indeed be closely related to the expression of the thoughts and to articulation: at all events, however, there are other parts of the brain, and particularly the anterior portion of the hemispheres, which are very important in speech.

It is principally in pathological cases, where the words fail although the corresponding thoughts are present, or where continually words quite different from those meant are pronounced, that we see how much must co-operate in the wonderful mechanism of speech. This kind of affection does not occur most frequently in mental disease, it occurs chiefly in diseases of the character of localized inflammations, in the sensorial centre, or more particularly in the hemispheres. We shall afterwards refer to the changes which occur in speech in mental diseases.

The true psychological nature of words is very frequently not properly recognized. Words are conventional images of sounds, signs for already very generalized forms; by themselves they give no concrete ideas, but only the excitation to such, to a number of ideas only to a small extent developed, only fragmentarily entering into the state of consciousness, and the details of which vary in each individual. Thus it is that different individuals attach different ideas to words; this is why it is difficult to give the correct and exact definition of the ideas which invoke the words, and to determine the question, which is to be understood by the words, and their possible combinations. The excitation, often so uncertain, of ideas which disappear again before their complete development, and are replaced with new ideas, also incompletely developed, incurs the danger of superficiality and abstractness, of the want of sensitive concrete thought, to one who is accustomed to keep simply to words. Without doubt, all the higher mental functions are bound in an intimate manner to speech; animals are mute, speech is a property peculiar to the soul of man. There are, however, moments of our existence when our inner life seems for once to be elevated above the form of words, when things unspeakable, inexpressible, unheard by human ear, rise as from a suddenly opened depth, and upon after reflection, perhaps it seems to us as if all which we know, or may yet attain, could never be a realization of what our innermost thoughts had conceived in a single such moment. Then one comprehends for the first time what is meant by 'despising the word.' Such circumstances which by their nature are accompanied by very strong, even overflowing, feelings, are probably more frequent in the various states of mental disease than in health.

§ 18. A closer comparison of the mental processes within the sphere of the intelligence, with those depending on the emotions, reveals to us many important analogies, and also some differences, which are worthy of consideration as rendering more simple the study of insanity.

1. In the first place, it ought to be remembered that there exists a similarity in the general conditions of irritation and irritability in perception and in sensation. In both there is perfect rest only in the deepest sleep; ordinary rest, which appears for example in the sense of sight as darkness, in the understanding as vacancy, is still function, there is consciousness of the dark field of vision, of the void in the sphere of perception. But the proper affection of the subject, that which in the sensation is color, sound, smell, etc., is always the reality, that is, the perception of which we are conscious. As there are, in seeing, hearing, etc., many degrees of strength and clearness, so also, in this knowledge of the perception, there are varieties of strength and clearness.

2. For the development and normal progress of the perception, as well as of the sensation, a steady, moderate, and adequate excitation from without is necessary. In the functions of sense, this excitation is produced by actual external irritation, and that which happens in the sensitive nervous system is, in the so-called eccentric phenomena, again referred, transported, projected, to the place of the accustomed peripheral excitation. The perception, on the other hand, never receives the irritations by means of which it is excited, and which are indispensable to its constant function, directly from the outer world, but always through the medium of sensation. There is then presented in the perception a similar eccentric phenomenon, a projection similar to what takes place in sensation, not towards the peripheral surface or the outside of the organism—we are conscious of perception rather as of an occurrence within our head—but within the same sphere from which the irritation ordinarily

proceeds, within that of sensation. This eccentric projection of perceptions appears to be that which necessitates a constant entrance of sensitive images into them. Through it, there is effected in the central organ of sense that feeble weak hallucination which accompanies all perception, and from it there is procured that sensitive appreciation of color, form, and sound, so indispensable to its clearness and vivacity, and which nature has meted out to each of us in such different proportions. It is the basis of all the psychical phenomena which are assigned to the imagination, and especially of those in which we have no more a feeble and vague impression, but one in the highest degree clear, closely resembling the objective perceptions of sense, and, like them, fully awakened by the outward activity of the organs of sense—namely, the hallucinations proper. Here the perceptions act in such a manner upon the central sensory apparatus, that in it something takes place which ordinarily is produced only upon their external irritation; namely, an act of sensation.

3. An excess of irritation has in both spheres the same consequences. An intense and sudden impression of light, a very loud sound or strong smell (as that of ammonia), gives a powerful and violent sensation, together with a sudden shock of the sense. Its immediate paralysis may be the result. This has been frequently observed in the senses of sight and hearing, in the cutaneous sensibility, and, in a rare case related by Graves, it has also been observed in the sense of smell. Should, however, the sense not be quite paralyzed it remains, for a time at least, less susceptible to all weaker impressions, and the incited impression continues for a long time after the cause is removed (continued appearance of the object in the eye after one has been blinded by looking at the sun, of a report of a cannon in the ear, etc.). It is the same with the perception. In man, a prodigious mass of perceptions of a certain kind are suddenly incited by a very strong impression, and here also the shock in its first strength may cause even paralysis of the organ (cases of sudden death beginning at the brain from violent mental influences); but if not, the complex mass of perceptions which has been provoked will, at all events for a long time, have the sole control of our consciousness, and the susceptibility will remain, for a considerable time, notably impaired in regard to all other perceptions. In this manner, agitating events may lay waste and impoverish the mind.

§ 19. 4. Perception and sensorial function (and here again the relations are most evident in the sense of sight) cannot continue for an unlimited time in quite the same state; they appear to be soon fatigued by a continuation of the same action, and therefore a certain change is always necessary. Where no motive to such a change is presented from without, a new sensation or perception, purely subjective, will be called forth from the original perception. The simplest phenomenon of this nature, within the sphere of sensibility, is that of the so-called complementary colors, and subjective contrast colors (the appearance of blue when we look at an orange color, of violet when we look at green, etc.). In perception something analogous occurs, in it this process proceeds according to the fundamentally obscure relations of contrast and similarity. When a perception has lasted for a certain time it calls up another, similar to, or contrasting with, itself, that is to say, there may be produced a series of perceptions, either altogether new, or such as can be retraced to the first perception, which continues to predominate.

This occurs very frequently, for example, in those cases where, in the midst of sad ideas excited by an external cause, others of a completely opposite nature very humorous, suddenly arise. The ideas call forth each other, as well according to the sense they contain, as according to the analogy of the sensorial images entering into them (images of vision, of sound, words); the last is sometimes seen in mental disease, especially in mania, in the most striking manner, where the patient finds and pronounces with great rapidity long series of similarly sounding words which are unconnected in meaning, or at least connected only by the most incoherent sense.

In other senses than that of sight, especially in cutaneous sensation, and particularly in pathological conditions, we see that a sensation, for example, a pain in a certain part, may excite an analogous sensation (titillation, pain, etc.) in another part, and that these have always a tendency to accompany the primary sensation.

In so far as through the so-called association of ideas no new perceptions are originated, but only some are awakened and reproduced out of the store of perceptions which were formerly present, this process is called the *memory*. The more intimate proceedings of this process of reproduction are obscure, and quite incomprehensible; old ideas suddenly arise without any origin being discoverable in the ideas that have been present, even as those reproductions of sensorial images, which Henle described under the title of *the memory in the senses*, reappear suddenly, and without motive, in the field of vision.

It is upon this central reproduction of the perception that all the more delicate mental processes of combination depend, and therefore the intelligence is very much affected by anything which, to any extent, impairs the memory. In many mental diseases, particularly in dementia, the impossibility of judging correctly, and of forming right conclusions, is owing to the destruction of memory. Ideas are more easily retained and reproduced according to the degree of strength and of force with which they at first entered, and to the healthiness and activity of the brain. Any disease of the brain may impair or destroy the memory; consequently the state of the memory, in many of the insane, indicates the severity of their malady. Even slight changes in the cerebral states, as, for example, the effects of alcohol, can considerably advance or retard the reproduction of ideas, break up associations of ideas which were formerly familiar, and recall old and forgotten combinations. There are few phases of mental activity upon which the effects of direct physical influences are so evident as upon the memory. Nevertheless, one must not take too material a view of the matter. The examples of quite partial loss of memory, so frequently the result of wounds or diseases of the brain, in which one might infer the loss of the apparatus devoted to a particular class of ideas, appear in reality to be more general in their effects than might at first be supposed. Here there appears to exist a general, though moderate, diminution of the reproductive power whereby those which are least connected with the individuality are the ideas most liable to be forgotten. (Gratiolet.)

In all the functions of the central organs, even of the spinal cord, there is memory, as well in reflex actions as in sensorial images, words, and ideas. To *habit*, in this reproduction of acts and ideas, which becomes always more facile and mechanical, stands opposed *inspiration*, in which series of new ideas are produced.

§ 20. 5. In the next place, the circumstance is conclusive that in the organ of perception, as in that of sensation, the energy special to them can be put in play not only by their normal external irritants, but also by internal irritation, which differs from perception and sensation itself; in particular it is excited by morbid irritation. Inflammation of the choroid is followed by irritation of the retina, which is shown by the apparition of subjective sensations of light, of various colored luminous globes, flashes of light, etc.; likewise all irritation applied to a sensitive nerve or to its centre can call forth subjective sensations of sound, smell, taste, cold, burning, formication, etc. In the same manner irritation of the brain, through internal organic irritation, manifests itself in new morbid phenomena of perception. As inflammation of the vascular membrane of the eye causes abnormal sensations of light, so disease of the vascular membrane of the brain, of the pia mater which so completely invests its free surface and even penetrates into it, hyperæmias and exudation on this membrane, beget also anomalies of perception (delirium), new states of the mind proceeding outwards from within (agitations, emotions, etc.), which, naturally, occurs to a still higher degree in diseases of the brain-substance itself. Besides, it is not only these serious and palpable diseases which cause such anomalies of perception. It is evident that the cerebral irritation may also originate through the communication of nerve-state from distant internal organs, as the heart, the intestines, the genital organs. That the nerves of the abdominal viscera are intimately related to the cerebrum and cerebellum has been experimentally proved; and as, even within the physiological limits of health, the states of the abdominal viscera have an evident influence upon the frame of mind as a whole, and upon the entrance of certain kinds of ideas, so morbid irritation of the nerves which have their source in these organs will frequently induce morbid states of the mind which sometimes again disappear upon removal of the peripheral irritation, although, at other times, when once originated, they preserve an independent and permanent existence.

It may be here mentioned that in health, as in disease, such organic irritations do not usually excite at the commencement new ideas clear and definite, but, in the first place, they cause those vague, indeterminate modifications of the intelligence which are designated emotions. In particular, the rapidity in the succession of the ideas, and the manner in which they intermingle are modified by these impressions from the organism, which identifies itself with the changes of the feelings and thoughts 'something like the flywheel which prolongs the received movement, sometimes like an inert burden which impedes it or renders it impossible.' Lotze has very correctly pointed out this relation which exists between the organs and the thoughts. "The ulterior development of the organism," says he, "acts upon the soul much less by the formation of definite ideas than by causing certain fixed natural inclinations or certain peculiarities of the movement of the thoughts, which, as inexpressible first propositions, form the basis of the views and conclusions of life. The sensations from the organs of the body, individually feeble and vague, in their sum, however, powerful and effective, act upon the soul; and this direction of the mind, in itself aimless, can, however, be the cause which guides the remaining powers of the spirit over a circle of adequate and determined ideas." Out of these frames of mind, particular determinate ideas may even be developed when aided by certain circumstances.

We shall find the same in insanity; we will see that nearly the whole pathology of mental disease consists in mental perversions originating from internal organic causes; and these perversions, in turn, give rise to insane ideas conformable to the new mental disposition, and over which the most various circumstances exert an influence.

§ 21. 6. Perception, like sensation, can be accompanied by pain or pleasure; in this respect they present a very great analogy, which is all the more worthy of remark as mental pain is a fundamental element in insanity.

In sensation, as well as in perception, the nature of pain and pleasure is a kind of vague obscure opinion, on the one hand concerning the elevation, on the other concerning the limitation and degradation, of the *I*. This opinion can be connected with a single sensation or perception, which will then be felt as painful: there are, however, also in sensation, as in perception, many more general, more vague states of discomfort where that obscure opinion is not related to any single sensation or perception, but rather to sensation or perception as a whole. To these belong the states of general uneasiness, of bodily *malaise* without localized pain, and in perception, the feeling of oppression, of lowness of spirits without adequate cause, which moreover, when long continued, develop in turn particular, really painful, ideas.

Mental pain may be occasioned by all that disturbs the normal course and combination of the ideas which represent the *I* (§ 28), and which therefore limit its freedom. An excess of mental excitation, which awakes a disordered pressure of new ideas, as also a deficiency of excitation (ennui, indifference), can awaken disagreeable feelings; so, in the nerves of sense, pain can originate as well through violent irritations and tumultuous impressions as from the abstraction of the customary excitant (cold, hunger).

It has been shown in a very interesting manner through the effects of the inhalation of chloroform, that the transmission of the tactile sensibility can be maintained, while the sensation of pain is annulled; and Schiff (Physiologie, i.) has recently shown that in the spinal cord the white posterior columns possess the property of conducting tactile impressions, and that pain can be transmitted only by the gray substance. Evidently, therefore, pain originates in the gray substance. It is by no means improbable that also in the organs of the perception the phenomena of transmission are not connected immediately and necessarily with the phenomena which produce mental pain, and that the latter can originate directly through the special irritation of certain constituent parts of the cerebral tissue.

It would depend very much upon the nature of the individual, whether the derangement of the normal course of the ideas would be so felt as to originate mental pain. A delicate versatile mental organization can feel great annoyance at a circumstance which would not at all disturb a more sluggish intellect; one, for example, which could not comprehend the reasons of a fact nor solve a problem. Very much, however, will depend upon the state of irritation in which the organs of perception are at the moment, whether or not the idea will be accompanied by pain. The same circumstance can produce at different times very different impressions; for example, if it happens after one has partaken of wine, on return from the opera, or, if shortly before, something disagreeable has taken place. As a nerve which is in a state of neuralgic irritation does not react upon external contact as in the normal state, and pain is awakened by the slightest impression, so there are states of the brain in which every mental irritation awakes a mental pain and where all thought is painful. But the actual state of irritation of the brain is a product of all the former states of irritation in connection with the irritation now acting. Where frequent and profound states of mental pain have been experienced, whether on account of an original predisposition to such, or mental impressions of an adverse kind, there is gradually formed a general painful state of the feelings which is sometimes persistent and sometimes transient; to the unfortunate all seems sorrowful, and he who experiences many reverses falls easily into a state of permanent sadness and misanthropy. We shall see that very frequently insanity begins with conditions such as occasion the patient to receive from everything painful impressions, and that this frame of mind is in many instances the result of disagreeable events. There is here revealed to us an important mental predisposing cause of insanity in that susceptibility to impression, that tendency to easy and rapid changes of mind, in which, through every mental impression, those obscure opinions concerning special mental acts are awakened, and in which, by degrees, almost every idea is converted into a mental disposition wherein the objective impressions are considerably weakened, and a hypochondriacal subjectiveness and egotism is easily induced.

Then mental, like physical pain, has this peculiarity, that it always presses prominently into the foreground of the consciousness and permits little else to enter it; indeed, as the highest degrees of physical pain cause external anæsthesia, its highest modes are accompanied by complete mental insusceptibility to the normal excitants. The pupil of the mental eye contracts, and the sharp, fixed, mental pain is the only object with which it is occupied, and of which we are conscious; as in hyperæsthesia of the sense of sight, the eye withdraws itself from the excitation of light, at other times agreeable, and seeks the darkness, so the patient who is afflicted with mental pain avoids mental intercourse with the external world because all contact is painful to him, and abjectly indifferent to all around him, he becomes more and more concentrated in himself. Mental pain has still other important consequences. On account even of this concentration, all other perception becomes dull and sluggish; ingenious in his own torment and constantly occupied with his pain, the patient becomes unconscious of the things that used formerly to interest him; they are momentarily forgotten, and when recalled to memory, the impossibility of now taking his accustomed part in them becomes to him a new source of grief. As every mental impression is disagreeable, there is developed a general disposition of indifference and digust, and benevolence and love give place to the dark impulses of suspicion and hatred. Again, the law of causality, which is innate in the human soul, urges him to search for the causes—which originate only from within—of the mental pain: these are sought for in the external world, because man is accustomed to receive thence the incitements to his mental states: as these causes, however, do not really exist in the external world, therefore the ideas, opinions, and conclusions which the patient forms are false—they are delirious. This searching for causes of the mental perversion, these attempts at explanation, we shall afterwards recognize as the principal source of the delirium of insanity, and we shall see that in this searching after causes there is presented to the mind of the patient not only ideas in the narrow sense of the word, but also, through the influence of the imagination and of the central excitation of the sensorial activity through the perception, many various hallucinations and illusions by which he attempts to explain his state.

Sensitive pain always impairs the tonicity and movement of the muscles. Sometimes the patient carefully avoids all movement, and instinctively rests the affected part; sometimes the movement is really rendered difficult, there is partial paralysis; or sometimes there are morbid movements, contractions, and convulsive tremblings. The mental life has also its motory side (see next §), and this is affected by mental pain in a similar manner. Sometimes volition is chiefly impaired and paralyzed, the patient is purposeless and inactive, in the same manner as sensitive pain is so frequently accompanied by a state of profound enfeeblement of the central organs: sometimes, on the contrary, it adheres tenaciously to a single object—a condition which may be interrupted by rapid, although not energetic, mental movement; sometimes the pain excites outbreaks of violent and aimless (convulsive) effort, such as is not proportionate to its duration. As, however, in the so-called muscular sensibility, the central organ is conscious of the condition of the motory nervous system, so also we are conscious of these states of the motory side of the mental life; this morbid mental languor, this absence of will, this one-sided adherence, and this convulsive jerking of the efforts are again perceived by the patient as a kind of motory pain, which increases still further his present painful condition.

The states of mental pain, anxiety, fright, sorrow, grief, etc., whether brought about by internal or external causes, have the same effects upon the rest of the organism as physical pain. Sleep disappears; nutrition is impaired; emaciation and general exhaustion result. Mental pain alternates sometimes with neuralgias, accompanied by so-called spinal irritation; at other times it originates these neuralgias; in particular, the existence of that epigastric pain (muscular pain) so frequent in spinal irritation is often observed. At other times it is complicated with physical anæsthesia of various degrees (diminished sensibility to temperature and to bodily pain, excited by an external cause).

The states of mental pleasure give entirely opposite results; the thoughtful reader may be allowed to pursue for himself their analogies with the nature and the results of the agreeable physical sensations (see also the chapter on Monomania in Book III., and various articles by the author in 'Med. Vierteljahrsschrift,' 1843 and 1844).

§ 22. As the special function of the brain, perception, is most intimately related to sensorial activity, so also there exists between the acts of the motory nervous system, which has its origin in the same organ, and the perception, a very direct connection. This relation is very analogous to that which exists between perception and sensation.

As we have seen that the sensorial perceptions leave after them feeble and faded vestiges, which become a constituent part of our ideas (§ 18), it is the same with the impulses of movement; they leave behind, in the muscular activity, faded designs which mix with our ideas as perceptions of movement. There is an intermediate sphere between the pure perception and the nervous excitation which gives rise to immediate muscular contraction—a sphere for which there exists no characteristic expression, which however, contains the impulses to the series of single muscular movements already co-ordinated in great groups and formed beforehand in our mind. Here the appropriate impulses of movement are transmitted to many muscles, which, in relation to single muscles, constitute comprehensive wholes, but which, in relation to our special actions, only again represent fragments, and are combined partly according to a pre-established harmony, partly according to the order given by practice and custom. This very complicated mechanism, whose seat, according to physiological experiment and the facts presented by pathological anatomy, is to be sought in the various points of passage of the continuations of the anterior columns and the pyramidal columns of the spinal cord, through the gray substance, first in the pons Varolii, then in the cerebellum and in the brain, is set in motion, on the one hand, by the mass of sensorial irritation which meets it at all these points. It presides then over those instinctive movements and actions which are quite independent of the intelligence, or which depend on it only in different degrees, and thereby come under its furthering or restraining influence. On the other hand, however, the general forms of these great impulses of movement and their ideal reproductions so mix themselves with our mental processes that they enter into the single perception as essential constituents. Thereby, however, the idea itself assumes a motory direction tending to muscular movement, and thus becomes effort.

The mind never excites our voluntary movements in the sense of invoking single muscles to contraction; it is unconscious of these muscles, knowing only the internal images impressed by previous sets of movements, which, when once they have become free impulses of movement, set the muscles in motion, without further mental effort, in great and regularly co-ordinated groups (walking, writing, etc.). In the more limited localized brain diseases, those of the pons Varolii, the cerebellum, the optic thalami, the corpora striata, etc., we see usually derangements of this mechanism, suspension of its connection with the perception, where complicated movements, excited by the irritation of the disease, are sometimes involuntarily performed (walking forwards, moving round and round); sometimes, owing to the mechanical separation of the brain substance, the influence of the perceptions can no longer reach this mechanism (for example, paralysis of one-half of the body, owing to the extravasation into the corpora striata). Sometimes, also, complications of these two causes occur, and, indeed, within quite limited spheres of movement; *e. g.*, that of the organ of speech, so that the patient cannot pronounce the words which he thinks, or, on the contrary, expresses words which he has not thought.

§ 23. The mixing of the intuitions of movement with our perception is the intermediate process through which every manifestation of our intellectual life must pass. But that there dwells in the psychical life within us an overruling tendency to express itself, to exhibit itself in motions and acts, depends upon this general fundamental fact which meets us everywhere in the nervous system—namely, that peripheral excitations transform themselves in the central organs into motory impulses. At different stages of the psychical life we observe that different consequences result from this arrangement. In the spinal cord, centripetal impressions not yet received into consciousness excite irregular, or only partially regular, movements of muscles, separate or in groups (the most simple reflex actions). All the organs of sense are accompanied by muscular apparatus, which, when excited by the state of the nerve of sense, become the seat of involuntary but suitable reflex actions which accompany and aid the sensitive perception. Also, that greater mechanism which contains within itself the impulses of movement to entire series of muscular contractions suitably combined, and to which the movements of the whole body are ultimately related, is set in action by the sensorial impressions according to the simple plan of reflex action; sometimes it acts harmoniously, at others irregularly, as when it is the result of a violent sensorial impression. Movements of the former kind are in part evoked by sensitive impressions from without, as may be observed in the rhythmical movements of the body resulting from musical impressions, or in the rapid so-called instinctive acts consequent on strong sensorial impressions (turning aside, etc.). Sometimes, however, the causes of the sensorial impressions, which occasion the action, exist within the body. The impressions from the whole organism, especially, however, from the viscera, the intestines, the genital organs, etc., under the form of sensuous requirements, give the impulse to action sometimes moderate, sometimes impetuous; in animals they rule uncontrolled, they constitute the principal element of their psychical existence, they impel them to long journeys, and govern all their great series of movements. In man, the immediate transition of these sensations to movement is subject in a higher degree to the influence of the understanding, and through it duty and morality intervene to control and govern the sensuous desires. But there are cases where these lose their power. In the insane, in whom the influence of the understanding over the instincts is enfeebled, and moreover the sensuous impulses perhaps strengthened, we often see, for example, the appetite for food or the sexual instinct showing itself with the most open regardlessness. Many sad examples (of shipwreck, etc.) have shown that hunger, carried to the highest degree, defiantly overleaps the barriers which ethical and æsthetical exhortation oppose to it; and also, without recurring to such extreme cases, it is a true maxim that, even amongst men of civilized life, hunger and love are the strongest motives which direct their actions.

In animals, the immediate reflex actions of the spinal cord in the brain are much stronger than in man. All their perceptions have the tendency to be immediately transformed to movements; pure calm perception seems unknown to them; their whole psychical life is connected with effort towards external objects. In man, the more this impulse to movement is governed by thought, the more the mind is capable of pure reflection, the less this impulsion transforms itself immediately in movement, the stronger and more developed seems to be his intellectual life.

The impulse, the necessity to muscular movement, to action, in consequence of such sensitive impulsions as proceed from the organism, is called (sensuous) *instinct*. The simplest and the most easily understood are the nutrient and the sexual instincts; the special instincts which belong to many animals are quite obscure, and their origin totally uninvestigated. Still, at least in man, it is not always the sensations proper which form the foundation of the instincts, but also obscure movements connected with them, and even awakened by them, in the perception; movements that are designated in part as feelings, which, however, may fail to form distinct representations of their object.

All instincts in man belong essentially to the brain, and not to the peripheral nervous system. The point of origin of a given sensation may lie in the most distant part of the organism, but nowhere else can it affect the mechanism by means of which complicated movements are realized, nowhere else can these obscure perceptions be united than in the brain. By means of both, however, these sensations are transformed into instincts.

One speaks also of the mental instincts, intellectual, accumulative, family instinct, the love of children, etc. There is here also implied the necessity to certain acts, stirred up by certain groups of ideas become persistent; ideas, however, which do not proceed from one another as single definite perceptions, but necessitate action conjointly, with the obscure abstraction of simple sensation.

§ 24. In the appetites and instincts, wherever they are not at once gratified, certain masses of ideas relative to the end to be attained struggle against the opposing circumstances, and the relations of tension between the ideas are thereby materially altered. In this way the instincts easily excite emotions more or less strong, continuous, or transient (§ 30); and in that the instincts, and the feelings awakened by them, mingle with the perception, this already assumes an element of movement impelling towards outward objects, and receives something warm, sensuous: by this union there are produced quite new states of mind.

The relations of the intercourse of the sexes offer a good example of this. The æsthetic pleasure in the society of an individual of the opposite sex, or the sensible conviction of their excellency, is first awakened through the mingling of sexual feelings and emotions with the states of mind which are in the whole termed love, and which with the extinction of the sexual feelings also ceases.

There is nothing inconsistent in seeking to discover in certain parts of the brain the seat of the sensual instincts. It must be in those parts where certain nerves of sensation and their central expansions—for example, the vagus, the nerve of the sexual organs—meet with the motory apparatus. But hitherto it has not been proved, nor is the supposition probable, that these parts are situated upon the superior surface of the brain.

In insanity, not only do the nutrient and sexual instincts very often show themselves in an uncontrolled manner, but also new instincts appear, and frequently of such a nature as did not belong to the former life of the individual.

persistent inclinations to certain acts—as, for example, the continual collection of all sorts of trifles (feathers, rags, paper, etc.); which reminds us of the instincts of collection, etc., proper to certain animals, and whose psychical origin is equally peculiar and undiscovered. In general, the acts of the insane, where the disease is manifested chiefly by external actions, as in mania, assume what Jacobi has strikingly called an instinctiform character; and it is remarkable that frequently the physiognomical expression corresponds thereto, expressively calling to mind the appearance and demeanor of certain species of animals.

§ 25. In the instincts there are no single, clear, and definite ideas; but there are no sensations and feelings which excite the impulses of movement, and whereby the action of the motory nervous system is directed towards the groups of muscles. If, however, the known and definite ideas, by being united to the impulses of movement, exercise an influence upon the muscular movements, this is called *Will.*

This is at least the simplest case, and the ground-work of the will. Here the impulses of movement proceed no longer from sensitive irritation, but from motives; that is to say, from complex ideas present to the consciousness, although in only a slight degree, the motive still resembles the irritation (see Schopenhauer, 'Grundprobleme der Ethik,' p. 41). Essentially it is the same process as that of reflex action.

Already in my first work upon psychological matters ('Archiv f. physiolog. Heilkunde,' ii., 1843, p. 76), I have represented the motory side of the mental life as a gradual succession of events following the same principle, from the simplest reflex action to the most known act of the will, and have therewith first shown this fundamental fact of all psychical life. Amongst philosophers, we will find essentially the same opinion in a thinker who certainly does not assign to the will a lower place (Schopenhauer, 'Ueber den Willen in der Natur,' and 'Grundprobleme der Ethik'). I have been very happy also to find the same general idea in the very valuable work upon Nerve physiology, by Schiff (Lehrbuch der Physiologie). I have there also called attention to the fact, that in insanity much depends upon derangements in the normal psychical reflex action, without the entire higher mental life requiring to be involved in the disease. Guislain ('Leçons Orales,' ii., 1, p. 169) agrees with me upon this point.

Those intuitions of movement associate themselves to the evident sensitive perception; but also into the perception, which consists solely in abstract general impressions which are indicated by words (the intelligible perception, § 17), images of movements can also enter. These, however, are then only equally obscure general impressions from large masses of intuitions of movement, which still are not generally separated, but are contained therein bundled together; in order to the realization of the intelligible perception, this aggregation of intuitions must go out in a number of single images of movements, previously undetermined.

It holds good in every case of abstract desire, as in the wish to be virtuous, to be successful in examinations, etc.; that is, would realize his idea of virtue, of examination. Wherever this is a real wish, and no mere thought, there is associated with the idea an obscure mass of still unformed intuitions of movement, which, in the realization, must resolve themselves into a complicated single desire. The determination to the object develops itself in the determination to the effectual means, and this finally resolves itself into numberless single efforts.

The ideas transform themselves into effort and will under the impulse of an internal force, in which we recognize, even in the innermost sphere of the life of the soul, the fundamental law of reflex action. We *must* will. In the healthy mind it urges and impels the individual to express his ideas, to realize them in actions, and thereby to rid himself of them. If this has taken place, the soul feels disburdened and freed;

by the act it relieved itself of the ideas, and thus its equilibrium is again established. This is a remarkable fundamental fact of mental life which the inward experience of each man must know. It shows itself in the artist whose mind for years is restlessly occupied with the burden of his yet uncreated fancy, to whom the complete and successful work is still vague and unknown, even as in those unfortunate men who, contemplating the perpetration of some hazardous misdeed, are subjected to the most tormenting inward struggles, which, however, disappear after the performance of the act, and are succeeded by rest.

There is also a memory of the effort and of the will (§ 19), a reproduction of the intuitions of movement, which, under certain conditions, reunite with the ideas. Amongst different men there exists great difference in the ease and energy with which the intuitions of movement succeed in their aims, apathy to complete absence of wiil.

All effort, the instinct and the will, form the centrifugal motory aspect of the activity of the soul. The special constitution of this phase of the soul-life constitutes, in a great measure, that which is called the individual character. These facts present a close analogy to what takes place in the musculo-motor nervous system, while pure conception has far more in common with the phenomena in the nerves of sense. We find, therefore, in effort the same categories which, as general expressions, represent certain states of muscular movemement—fatigue and paralysis of movement (weakness and paralysis of the will), tonic convulsion (continued and determined effort in one direction with immovability in all others), convulsive movement (instincts let loose by disease, covetousness, morbid restlessness, forming of projects and desire of action). It is worthy of consideration, that frequently in mental disease, this motory side of the soul-life and the musculo-motory function are both altered in the same morbid manner. Thus, there occurs absence of will, together with general subparalysis of movement, a morbid exaggeration of the will, with increased muscular activity (for example, in maniacal conditions); at other times, the disease passes quickly from the one sphere to the other, as in an attack of epileptic convulsions, followed immediately by a psychical convulsive state, a violent fit of mania. Weakness of the spinal cord is also frequently accompanied by weakness of will, despondency, and absence of mental energy.

§ 26. But as the sensations and feelings are the more easily converted into instincts in proportion to their strength, so *Will* is developed out of the single perceptions the more easily according to the strength and persistence with which they enforce themselves. On this account the strongest ideas, at the end of their transition, pass forcibly in actions. It is a fortunate provision, however, in mental life that every perception does not attain to this degree of strength. Then, according to the laws of the association of ideas, there arise the contrasting perceptions (§ 19); they draw after them further perceptions related to them, and there arises in consciousness a conflict. The whole mass of ideas which represents the *I* (§ 28) comes into exercise, and gives the final decision according as it impedes or favors that first idea. This opposition in consciousnes, which in the end is decided by the *I*, is the fact of the liberty of the individual.

The assumption of absolute liberty, as well as the results that flow from it, is erroneous. The liberty of an individual is always relative, and different men are free in different degrees. Originally the individual is in no respects free; he becomes so, first, by being possessed of a mass of well ordered and easily-evoked perceptions, out of which there is formed a strong kernel, the *I*. There are two general conditions necessary to the freedom of human action. In the first place, an unobstructed association of ideas whereby, around the ideas presented, which are transformed into will, other ideas originating may be gathered, and may be opposed to the former. In the second place, a sufficiently strong *I* (§ 28), that can give the decision by its mass of ideas, strengthening one set of the opposing perceptions, and thereby relatively weakening the other. With those weak in perceptions and mentally dull, freedom is to a great extent absorbed in the dreamlike monotony of custom. The man of weak mind is less free, since the living association is absent from his perception, and opposing ideas are not, or only very slowly, awakĕned. A child is less free as his perception is active, since no strong *I* has as yet been formed, that could send a powerful, firmly combined mass of perceptions into the conflict.

In a medico-legal aspect, it is very important for the physician to have clear views upon the nature of human liberty, so much obscured by abstract modes of treating the subject. The contents of this paragraph are mainly devoted to this purpose. Liberty, therefore, consists essentially in an influencing and transformation of the (occasional) will; in (occasional) masses of ideas pressing into reflection by the aid of other ideas, and especially by the entire mass of combined ideas belonging to the *I;* in the control which the *I* exercises over the tendencies actually existing; therefore in the possibility of self-command. The more compact and united the *I* is in itself, the more decided is the character: on that account the more decidedly does each one call into exercise, by his affirmation or negation, the ideas which are already floating in the mind. So is the saying to be understood, that "true liberty consists in limitation,"—namely, by means of the *I*. Where this limitation fails, the ideas that occasionally spring up, often depending only on the sensitive excitations present at the moment, or only passing desultorily (capricious), press unhindered towards the motory side, and enforce their accomplishment. By the most varied bodily influences, however, this limiting power of the *I* may be restricted, diminished, or quite abolished.

When an individual makes moral motives the rule of conduct in his actions, this can only be done inasmuch as by frequent reproduction and practice he unites the masses of perceptions which are referable to his moral law with all his ideas, so that they, with every strong motion of the thoughts, accompany them into consciousness. They form then an essential constituent element of the measure of perception of his *I;* and if a conflict arise in the consciousness, they not only immediately step forward, but they also over all the contents of the *I*, upon the whole, have the advantage. In the immoral man, on the other hand, the egotistical and malignant thoughts have gradually so rooted themselves that they always are ready to step forward, and the *I* is occupied by that whose chief mass is, upon the whole, to the bad side. Of course it is not supposed that such an individual on this account acts wickedly in every case; in him also the association of ideas is an active principle, and, inasmuch as it suggests to his mind the contrasts of his evil thoughts, half-smothered emotions, half-erased images, and the remembrance of better days, with the good advices received in youth, step into consciousness, and a violent conflict may result. In the end, indeed, the *I* favors the wicked side; were it to favor the good, the man would not be immoral; still, he is a man whom certainly it would be unsafe to trust too much, although in this case he may have overcome his evil desires. The strength of the opposing moral motive can, however, never beforehand be estimated. There is no man absolutely bad; benevolent inclinations may sometimes have the predominance, in no human being are they totally suppressed, and the history of criminals shows how often that little store of youthful recollections, the remembrance of an old saying or verse of a song, forcing itself into the train of thought, calls up the suppressed moral perceptions, and therewith the impression of the good is confirmed. If there existed an individual such as old Cenci in Shelley's drama, the wicked conclusion could with him, indeed, each time be predicted as a result to which he was irresistibly impelled: but there is no such individual, and no one who is mentally healthy is compelled to acts of villany.

§ 27. The normal reciprocal action of the perception, whereby, through the ideas actually in the mind, other contrasting, or in general limiting, ideas are awakened, whereby all proceeds with moderate strength and rapidity, so that, in general, a conflict can arise in consciousness, so that thought and reflection, and therewith a survey of past and future, are possible, is best designated as the state of *Reflection*. One easily perceives how this is an essential condition of all liberty.

Now there are many states where this reflection is weakened or destroyed. This appears to a greater or less extent, first, in the emotions (§ 30), which are still considered physiological states; then, in almost all pathological states of the brain. Alcoholic intoxication, sympathetic cerebral irritations, most of the deeper organic diseases of the cerebral substance—in short all the diseases of the brain with which we have here to do as mental diseases—disturb the free exercise of the perception, and thereby limit, or completely destroy, the reflecting power. They effect this in many ways; sometimes certain desires and instincts, through disease of the brain, are directly increased to excessive intensity (sexual instinct, destructiveness), and are transformed into will and actions without any other ideas being able to control them; sometimes all perception proceeds with such rapidity, that, in the confusion of ideas, there is no one so powerful or lasting as even to originate an actual conflict in the consciousness. Frequently we see both these conditions in the maniacal states, where, in the latter case indicated, the slightest excitation from without often decides the nature of the actions. Sometimes the perception is so sluggish, and the *I* so weak, that from this source the conditions of an internal conflict are wanting; for example, in dementia. Sometimes, in consequence of cerebral affection, certain false connections of ideas, erroneous conclusions, become so persistent, and so interweave themselves with the whole mass of ideas of the *I*, that their contrasts are completely effaced from the soul, and they therefore press themselves into all conclusions; and the *I*, falsified through these fixed ideas, is now forced always to decide according to their sense: this is the case in monomania, also in many maniacal and melancholic states. The determination and the deed often follow in these cases with great placidity, and with apparently sufficient deliberation and choice of means; notwithstanding the inward reflection is wanting, because the false opinions have acquired the strength of irresistible motives, and the patient cannot rid himself entirely of them.

In the above we have merely given a few examples, and not enumerated all the states in which the reflection is suppressed in insanity. Much in the mechanism of the mind is as yet entirely unknown; in many states of insanity, of intoxication, etc., entire great series of perceptions, the sense of duty, æsthetic ideas, etc., appear to have disappeared altogether or temporarily, without other masses of ideas, by which the former were banished, being allowed to establish themselves.

In all mental diseases the power of reflection suffers first, and therewith the liberty. Naturally, this loss of liberty is not the essential manifestation of the morbid process, but only a result of the most varied mental disorders abstractly expressed in order to be understood; at no time can it have the significance of a diagnostic sign. The reflection also suffers in the insane in very different degrees. There are conditions which cannot be distinguished from the class of mental diseases without an unnatural separation of things analogous; for example, the initiatory stage of many states of profound melancholia, which frequently is much prolonged and in which there still exists in the patient a certain capacity of reflection. Mental disease and complete absence of liberty are therefore not the same; a medical opinion upon such states ought not to embrace in a general manner the abstract ideas, which ought to be thoroughly distinguished from each other, of either mental disease or health, of liberty or non-liberty, but it must trace physiologically the concrete phenomena, the psychical events, even to their source, analyze their connection, and estimate their results. But in order to do this, special education in this subject is indispensable, which, unfortunately, is possessed by few.

This would be the proper place to consider the question of imputation and responsibility: a full investigation of this subject does not, however, lie within the sphere of this work; the leading principles of its study are laid down in the preceding paragraphs. A few remarks might nevertheless be submitted. When the question of responsibility is raised, it has always hitherto been a customary concession by the medical jurist to answer it. From the nature of the question, however, the physician is not obliged to give any opinion upon these wholly juridical matters, but only to furnish the judge or the jury, who decides these questions, with the facts, fully digested, relative to the case. The physician can also, if it be his interest, refuse to answer the question of responsibility; and I myself have, in a celebrated case (Process Fahrner, Rottweiler Schwurgericht, December, 1858), declared that if the question of responsibility were put to me, I would not answer it, as being extra medical. It was accordingly not put. What other question may then be legitimately proposed to the physicians? Evidently, in most cases, questions like the following:—Whether disease exists which disturbs the mental activity generally, and specially suspends liberty of will; or, as degrees must here be admitted, whether to a greater or less extent it has limited it, or could have done so. By answering this question the physicians keep within their own sphere, and it contains all the essentials that can be learned from them. For the physician who is a competent judge, it is impossible in the present state of science to give a definite answer to this question, and therefore he should declare it, and without respect to consequences. He has no other interest than that of truth, and thereby should not intermeddle with matters which do not belong to his office, and for which he is not responsible: for example, whether the law should punish those who are evidently to some extent insane, or what degree of punishment should be inflicted upon the accused. The judges (or jury) are not bound by the opinion of the medical man, which is but one element among others to aid them in coming to a decision. It would be fearful if the medical evidence, often so bad and so contradictory, had a decisive influence upon the issue of a criminal process. It were well that physicians could see that hereby the influence of their science is limited; the more strictly they keep to their own sphere, into which none can follow them, the greater will be their influence. The author speaks from forensic experience.

§ 28. In the course of our lives, in consequence of the progressive combination of the perceptions, there are formed great masses of ideas which constantly become more associated. Their peculiarity in individuals does not depend merely upon the special contents of the single perceptions excited by sensitive impressions and outward events, but also by their habitual relations to the instincts and will, and by the persistent restricting or extending influences which arise out of the whole organism: even the child comes to receive from his, as yet comparatively simple, mass of ideas, a general impression, then, as soon as the material is sufficiently developed and strengthened, he begins to employ an abstract impression, the *I*.

The *I* is an abstraction in which traces of all former separate sensations, thoughts, and desires are contained, as it were, bundled together, and which, in the progress of the mental processes, supplies itself with new material; but this assimilation of the new ideas with the pre-existing *I* does not happen at once—it grows and strengthens very gradually, and that which is not yet assimilated appears as an opposition to the *I* as a *thou*. Gradually it confines itself no longer to a single complexity of ideas and desires which represents the *I*, but there are found several such masses of ideas united, organized, and strengthened; two (and not only two) souls then dwell within the man, and this changes or is divided according to the predominance of the one or of the other mass of ideas, both of which may now represent the *I*. Out of this, internal contradiction and strife may result; and such actually occurs within every thinking mind. In happy harmonious natures this conflict is spontaneously and rapidly brought to an end, since in all these various complex perceptions, there is developed, in common, several general, in all recurring, fundamental intuitions, still obscure, and which cannot be easily expressed, whereby there is given to all the spheres of the thought and will a harmonizing fundamental direction. Faith on the one hand and empiricism on the other may serve as examples of such various fundamental directions. It is the highest object of self-education not only to acquire such general and solid fundamental directions, but to elevate them gradually as much as possible by thought into consciousness, and so, in the firm possession of such, to attain to the elaborated first propositions of all thought and will adequate to the particular individual nature.

At different times our *I* presents different characters, according to age, various duties of life, occurrences, momentary excitations of this or that mass of ideas, which at the time represents the *I*, being more developed than others and occupying the foreground. "We are another and still the same." My *I* as physician, my *I* as a scholar, my sensuous *I*, my moral *I*, etc.,—that is the groups of perceptions, instincts, and directions of the will which are expressed by these words —can come into opposition with each other, and repel each other, at different times. Not only must inconsistency and disorder of the understanding and will result, but also—on account of the continued limiting influence of the others—complete want of energy in each of these features of the *I* would ensue, did not some of these more obscure or apparent fundamental directions return to all of these spheres.

One of the most evident, and in relation to mental diseases most instructive, examples of an entirely physiological renewal and transformation of the *I* is afforded by the mental events which occur during the period of puberty. With the awakening of activity in a hitherto dormant part, and with the complete organic revolution which then takes place in a comparatively short time, great masses of new sensations, instincts, obscure or more definite perceptions and impulses, come into consciousness. These gradually pervade the whole sphere of perception, and become constituent permanent parts of the *I*. Thereby it is thoroughly altered and renewed, and the sentiment of self undergoes a radical change. But, indeed, until this assimilation is completed, this penetration and transition of the old *I* can scarcely take place without much pressure on the consciousness and tumultuous agitation; that is, not without great emotion. This period of life is therefore especially the time for emotions arising from within, without being excited by external influences.

§ 29. It is not without a purpose that we have selected this example which illustrates insanity by many analogies. In it also there is usually developed, with the commencement of the cerebral disease, masses of new sensations, instincts, and perceptions, proceeding from within outwards, which were hitherto, at least in their present form, unknown to the individual; for example, sensations of great anxiety with which there is combined the idea of persecution. At first these stand opposed to the old *I* in the character of a foreign *thou* often exciting amazement and fear. Frequently their forcible entrance into the whole sphere of perception is felt as if it were the possession of the old *I* by an obscure and irresistible power, and the fact of such forcible possession is expressed by phantastic images. But this duplicity, this conflict of the old *I* against the new inadequate groups of ideas, is always accompanied by painful opposing sensations, by emotional states, and by violent emotions. Herein, in great measure, lies the foundation of the fact taught us by experience, that the first stages of the great majority of mental diseases consist in predominating affections of the sentiments, generally of a painful kind.

If the immediate cause of the new and abnormal state of the perception—the cerebral affection—be not removed, it becomes fixed and persistent, and because connections are gradually formed throughout with the groups of perceptions of the old *I*, and since frequently other masses of perceptions more capable of resistance are completely destroyed and effaced through the cerebral disease, the resistance of the old *I*, the struggle in consciousness, ceases by degrees and the motions are allayed.

But now, through these connections, through that introduction of abnormal elements of perception and will, the *I* itself is falsified, and has quite changed its nature. Then the patient can again be calm, and his thoughts sometimes formally correct; but these abnormal erroneous ideas push themselves into every part of it as irresistible premises; because they have over all formed connections, the patient has become in no respect what he formerly was, but quite another man—his *I* has become new and false. At other times it appears that several new groups of ideas, having little coherence amongst themselves, are formed, each of which may represent the *I*, and thus the unity of the individual may be quite lost (many demented monomaniacs). In so far as in these conditions all emotion has ceased, we may rightly designate them simply false thought—diseases of the understanding.

In the preceding remarks we have expressed in few words the ordinary course of events in insanity from its commencement to its termination in incurable dementia. What has been said does not, of course, apply to every case; for example, not to the dementia ensuing immediately after wounds of the head; and also, where the morbid phenomena, on the whole, follow this course, there are presented many intermediate cases and deviations. In particular, through the deeper and further progress of an organic brain disease—for example, that chronic inflammation of the cortical substance which ends in atrophy—the course is so curtailed, that dementia ensues so rapidly as not to admit of the formation of a new *I*; or recovery or death takes place before this can happen. We shall recur to this subject in the third book (on the varieties of insanity).

We may also here call attention to the great influence which the state of the former (old) *I* must have in these conditions. A weak *I* will be sooner subdued by the new abnormal perception than a strong one. A slow imperceptible penetration of the old groups of ideas by the new will certainly cause much less emotion; but, inasmuch as it offers to the *I* less opposition, the latter is the more readily subdued and absorbed. The duration of the disease is of all circumstances the most important. The new groups of perceptions are dangerous to the *I* in proportion as their contents are related to the old; their union will then be easier, but the combination of the two states, contrasted with the earlier, will be proportinately less striking. All these statements are fully confirmed by everyday experience.

In the state of health, the various groups of ideas which can represent the *I* find a fundamental element of unity, above all, in the complexus of ideas of the body proper. And if, in the course of life, this physical sensation of self is in various ways subject to change (disease, age, etc.), so does the joint perception of the same body serve as a point of union for the remaining preceptions, and as a centre from which the motory acts proceed. But there are abnormal conditions, particularly in mental disease, in which the general bodily feeling quickly and sensibly changes, so that hereby this fundamental sensuous element of the old *I* undergoes a total transformation. Then for the first time does the patient lose his former personality; this he no more recognizes as his distinguishing feature—then for the first time the patient considers himself a different person than he actually is. It is very essential to distinguish this from those changes which the *I* undergoes through simple occupation by new ideas and aims, produced by the disease of the brain, without essential change in the physical sensation of self.

§ 30. A simple difference in the perception, familiar to all, consists in this—that it sometimes proceeds quietly as calm imagination or thought, while at others it is accompanied by great disturbance, by a general state of mental disquietude. In the first case, the masses of perceptions which represent the *I* act towards the thought which is present in the consciousness as quiet onlookers, as in being perceived they are only feebly and slowly changed by it, and when obscure opinions thereby result relating to the demands or limitation of the *I* (pleasure or displeasure), these also are of but slight intensity. In the second case, any striking occurrence in the consciousness, as a mass of perceptions suddenly presented, or a sudden urgent desire, enters with violence. By these occurrences, separate groups of perceptions are promptly evoked, which bring others along with them; whilst others are rapidly, but not without opposition, repelled, and the *I* must necessarily be affected by them pleasurably or painfully according as they promote or impede it.

Those obscure opinions, psychical pleasure or pain (§ 21), constitute the foundation of our moral sentiments. The sentiments[1] are completely bound to the ideas, and by them exclusively we are made aware of the relations of tension and movement in certain perceptions, of the degree of free movement, and of promoting or impeding influences within them, and of the nature of their reciprocal action. The perceptions themselves whose relations of movement are thus made known to us may be perfectly clear and strong, but they may also be very obscure and their contents not easily distinguishable. Frequently, and especially in physical influences on the disposition, we are unable certainly to distinguish the cause of the feeling, of pleasure or pain. Sentiments such as have no definite object presented, and such as are of a depressed irritated nature, often call forth merely a change in the bodily states. Sickness usually changes completely our mode of feeling; it modifies not only the contents of our ideas, but also their relations of tension and movement. Conversely, strong feelings, when they proceed from the perceptions, are usually accompanied by marked changes in the dormant masses of bodily sensation. Thus many powerful feelings are half corporeal and half mental (anxiety, fright, etc.).

Emotion may accompany calm thought: scientific thought can, for example, when the allied ideas meet in a favorable manner, be accompanied by a sense of pleasure, by the feeling of success. But the emotions are much more lively when, through a sudden change occurring within the consciousness, the masses of ideas belonging to the *I* fall into violent oscillation, and the *I* thereby suffers an abrupt or restless change. These affections of the *I* are called the *emotions*: in the first case they are joyful, in the second of a sad nature. In all the sentiments, emotions occur as essential constituents, although every sentiment does not occasion emotion. There are sentiments, more lasting and stable, which have no emotion, as the sentiments of self, country, family.[2] The sentiment of the *I* can proceed even to instantaneous suppression; one becomes "out of himself."

As in the emotions, only the relations of tension and movement in certain masses of perceptions, and the manner in which the *I* is excited by these events, come into consciousness; so they have no definite existence that can be expressed in words, but they call forth desires, and are in turn evoked by them. The sentiments, since they consist of rapid changes in the relations of tension and movement in the perceptions, are naturally always bound to the emotions.

Music excites in many individuals intense emotion, and affords a very good example of the half bodily, half mental, states of this kind. Here, certain changes in the sensations of sound act immediately, and principally (almost unconsciously to the individual) upon the internal impulses of movement for great extended muscular actions (cadence, rhythm, melody), but so feebly that usually no movement is produced. This constant change in the internal impulses of movement (ideas of movement), with its tensions and relaxations, produces nothing but sentiments, and indeed of an aimless kind; it presents something inexpressible and highly superficial, without at all enriching the mind with clear perceptions or ideas. Nevertheless, this excitation of the sentiments need not on this account be either worthless or indifferent to the soul; it can contain much that is fitted to soothe, impel, or excite the present disposition, and thus, indirectly, expand or contract the soul itself.

The *disposition* to which these events are attributed as movements (emotions) bears an essential relation to the motory side of the soul-life, to the instincts and the will. Not only are instincts and impulses of the will awakened by all emotional states in order to oppose the limitation or advance the promotion, but also observation shows that the production of the affections proceeds more easily from the motory side of the soul-life than from simple pure thought.

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[1] Stiedenroth, 'Psychologie,' ii., p. 2 ff.; Volkmann, 'Psychologie,' p. 301 ff.

[2] Herbart, 'Lehrbuch.' 1816, p. 54. Drobisch, 'Empirische Psychologie,' 1842, p. 205.

Restrained or expanded effort affects the *I* much more than the same conditions in pure perception, and the most sudden and violent agitations result from the sudden arrest of efforts in progress. When, for example, our calm scientific thought is impeded by an unexpected external hindrance, we may indeed be annoyed; but when our will is opposed, when the execution of plans designed and determined by the *I* is hindered, this excites much more violent emotions—anger, disappointment, etc. We frequently observe that thwarted plans and determinations of the will—for example, an occupation enforced while all the inclinations of the individual are directed towards engagements of quite a different nature—become the causes of lasting emotions, and of insanity thereby developed. We know the case of a man who became insane because he was forced to be a butcher, while he desired to become an ecclesiastic. Examples of this kind are to be found in all asylums.

§ 31. The question, what properly speaking the affections and the sentiments are, and what position they hold in the mental life, is of great importance to the understanding of insanity (which so frequently, and for so long a time, consists principally of a disorder of the affections). Our perception and effort are always subject to progressive change; we only, however, speak of a sentiment, when the mass of perceptions which represents the *I* is subjected to a violent shock and brought into collision, which (§ 30) never can occur without emotion. In this disturbance of the tranquillity of the mind, there is no further agitation than that of the wonted calm which our *I* maintains towards the perceptions present, than of the manner in which, above all, the multifarious masses of perceptions and efforts which we feel within us behave towards each other. This usual tranquillity is not, however, absolute quiet or inactivity, but is the result of regulated moderate activity, which simultaneously represents the acquired amount of mental power and the ordinary direction of the mental life; it may be called the *mental tone.*[1]

The tonicity of the spinal cord, which is evinced in the muscles, in the cellular tissue, etc., as a moderate habitual degree of contraction, and on the side of sensation as a moderate degree of sensitivity and irritability, is the product, not of a single sensation or movement, but of the sum of the sensations and impulses of movement which is lost in the unity and generality of a moderate irritability. It depends upon a moderate amount of excitation, which is the combined result of the separate central nerve-acts. This moderate degree of apparent quiet is not broken or destroyed as a whole by every sensation and movement, but it becomes so by all sudden and strong sensations and movements (exhaustion, pain, etc.). In both domains the tonicity is naturally sometimes more unsettled and variable than at others; indeed, according to the state of the organ, the slightest irritation can at times excite fatigue, pain, or convulsions; even a fly upon the wall can be a source of annoyance. It is not the customary view, and it would be too vague, although quite correct, to consider tetanus convulsions, etc., as changes in tonicity (one-sided increase, interruption, etc.); undoubtedly also it suffers from the disturbance present. Likewise in the parallel mental states (mental pain, mental convulsions) the disturbance of the sentiments is the most striking; and it is, in general, in this sense that we speak of the disorder of the emotions and of their priority in insanity.

We call the man *impressible*, whose *I* is easily moved, and in whom, accordingly, agreeable or disagreeable feelings—sympathy, compassion, benevolence, aversion, etc.—are readily excited. Agreeable as is this characteristic, yet this danger follows, that the sentiments willingly attach themselves to these obscure excitations, so that they do not succeed each other in a clear train of thought, and that the habit of clear thinking is lost, and the individual governed by mere sentiment, of whose influence he cannot divest himself, but thereby orders his actions and frames his life. This is the impressible character in the bad sense. He is called *unimpressible*, whose *I* is not easily affected by pleasure or pain, either on account of great weakness and dulness of all the mental powers (apathetic, very phlegmatic men), or because, upon contact of the *I* with the perception present, there is simultaneously produced distinct opinions in clear ideas instead of obscure sentiments (intelligent men). The man is *strong-minded*, in whom there is developed a firm tone of mind, who is not immediately moved by every mental excitation; he, indeed, feels events as agreeable or disagreeable, and they are accompanied by obscure opinions relating to the promotion or hindrance of the *I;* but the *I* itself, however, is not so easily shaken; he is not easily subject to general mental disquietude, to anger and ill-humor, and in joy and pain moderation is maintained. There is, on the other hand, *weakness of mind*, where reactions of the *I*, extended, but wanting in energy, are easily evoked; nearly every perception excites a sentiment; joy and sadness succeed each other with the utmost ease, and emotions become necessary to mental life: the diminished sensibility then frequently demands new and strong irritation, as finding pleasure in shocking and fearful events, and the *I* is at rest only in times of exhaustion and sleep.

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[1] Compare the author's essay, 'Aufsatz über psych. Reflexactionen,' loc. cit., p. 95.

It is easy to recognize the identity of the last-mentioned case with what, in the sensitive motory sphere, is called irritable weakness, and is considered the most important disposition and fundamental state in many nervous diseases (for example, the spinal neuroses). This state is well called weakness, since with the single and one-sided increase of excitability there is accompanied an absolute diminution of power in the functions. In convulsions, the voluntary muscular movement is weak; in constant emotion, the thought and the will are weak and languid. These states are not only very frequently combined with each other, as in the tendency to emotion and the increased tendency to convulsions in many hysterical persons, but they also very often originate simultaneously in both spheres from the same causes, have in their course the same consequences, and the principles of their treatment are throughout analogous.

§ 32. Upon the nature, method, and facility with which the *I* is affected in the form of emotions and sentiments, depends certainly a considerable part of the modes of reaction, and therewith the individual peculiarities of men. In so far as the peculiar modes of the individual lie in the inner world of the disposition, and this is not opposed by the versatility of the mental states, the peculiar manner in which this change proceeds is the characteristic; it is this which gives the fundamental complexion and tone to our disposition. The disposition is a certain mode of behavior of the *I*, the fixed steadfast kernel of our individuality, with which the results of our whole mental history are associated. This may, indeed, be shaken in the emotions, but not impaired or destroyed; what else can be affected in the emotions than that group of ideas, the *I?* The *I* can be detached, and completely destroyed, in serious disorganizations of the brain (in dementia); it may succumb, and a new one arise in its place (monomania); but even this is only the case (§ 29) when the emotions which necessarily accompany the lesion and destruction of the old *I* have been completely pacified.

The nature and the manner in which the mass of ideas representing the *I* is affected by what passes within the consciousness, or presses into it, determines the nature and manner of the self-sensation. Moderate and lasting changes of consciousness are, again, the foundation of the various modifications of the dispositions; when they take place suddenly and energetically, and are accompanied by considerable disturbance of the mental equilibrium, they constitute the foundation of the mental affections. The objects of consciousness can only be of a twofold nature, pleasurable or painful; the one, when the groups of perceptions of the *I*, the interest of our inner life, are favored and advanced, through the events in consciousness, in their free course, their adequate relations, and especially in their transition into efforts; the other, when hereby they are repressed, subverted, and limited. From the slightest changes in the disposition up to the most violent emotion, only two kinds are possible: either a state of furtherance and expansion of the *I*, which affords pleasure, therefore it is in harmony with the new occurrences in consciousness, and seeks to retain them; or a state of limitation and depression, where the group of perceptions of the *I*, in their flow and transition into effort, are impeded and repressed, sometimes take to flight, sometimes perseveringly strive to enter; here the *I* is in negative relation to a new perceptions. Accordingly, all the dispositions and emotions divide themselves into two great classes—the expansive (and at the same time affirmative), and the depressing (and at the same time negative, accompanied by abhorrence). To the one belong joy, gladness, pleasure, frolic, hope, humor, merriment, etc.; to the other, anger, malice, dejection, sadness, sorrow, shame, fear, horror, etc.

This relation is the basis of the classification of those states of insanity where affections of the disposition predominate, therefore of the primary forms of mental diseases (§ 29). We meet with two principal classes: in the one, the chief disturbance consists in depressive negative dispositions and emotions—all melancholic conditions; in the other, they consist in expansive affirmative emotions—monomania. We have not yet spoken of anger: it occupies an intermediate place between the two kinds of emotions, viewed in relation to its causes, it belongs rather to the first, in that it implies an invasion of the *I;* but there follows a violent reaction, a lively expansion and explosion of the perception and effort, by which this hostile impression is overcome, and the equilibrium again established. The conditions, however, which are understood by the term *mania* are, according to their psychological nature, intimately related to anger, and nosologically their proper place is between melancholia and monomania.

§ 33. An important circumstance, which clearly distinguishes the emotions from calm thought, is this—that in the former other organic processes besides the celebral are always involved. The heart's action, the respiration, the digestion—the secretions of the skin, the liver, and the kidneys—are altered in the emotions. In anger, the facial veins congest; occasionally it seems as if violent emotion would suffocate. Fright and horror quickly excite watery secretions; in grief, the respiration is prolonged and superficial, and must, therefore, be occasionally broken by deep gasps and sighs. It is thus that the emotions and emotional states, originally by excitation of the nervous system coming from the brain, give rise to abnormal physical states. Emotion, when transitory, and occurring in a previously healthy organism, is speedily calmed; where, however, bodily disease is already present, and where the causes are long continued (for example, prolonged sadness), there gradually arise many complicated disorders of the organic mechanism, which the simple cessation of the emotion cannot as quickly terminate; and these disorders can now, by means of new secondary irritation of the brain, not only maintain and increase the existing emotion, but also orginate new conditions of a similar nature.

For, it is a fact taught us by experience, that when the mental function of the brain is influenced by the organic processes (respiration, digestion, etc.), this does not immediately affect the sphere of clear perception; it does not thereby follow that we receive new thoughts, but rather that there originate, in the first place, within us obscure modifications of self-consciousness and disposition, feelings of furtherance and limitation of our mental function, and thereby an essential element of emotional states is forced upon us (§ 20).

Examples of this are met with in many diseases. We very often see that in those afflicted with heart disease anxiety appears, and that in diseases of the intestines, in changes in the blood resulting from icterus, sullen, anxious, irritable moods, sluggishness of thought, general disharmony, etc., are observed. The feeling of corporeal well-being or of bodily illness generally exercises a great influence upon the frame of mind, whether it be glad and cheerful, or depressed and sad; should external causes capable of exciting an emotion now influence us, very much depends upon these existing, habitual or transient, cerebral states which are excited by the bodily conditions, whether the emotion will be constant. In an individual already irritated by bodily disease, an emotion excited by any external cause becomes sooner fixed, and is more lasting in its effects, than when it originates in a man who enjoys the best physical health and joyful disposition.

These relations constitute some of the most important fundamental elements of the pathology of insanity. They are the key to a knowledge of the predisposition to mental diseases resulting from the most diverse bodily diseases, and of the mode of action of psychical causes. The latter very seldom (see 2d book) produce insanity directly; they do so much more frequently secondarily through the interposition of other disorders; for example, in this manner—that through long-continued grief the nutrition greatly suffers, and this primarily exerts an influence upon the brain and thereby upon the psychical processes.

§ 34. In the emotions calm deliberation is impossible. The *I* itself, having fallen into a vacillating and disturbed condition, does not possess the composure necessary to consider the facts present in consciousness with sufficient concentration and attention. That state in which this consideration is possible, and actually takes place, is called *the reason*. In order to this consideration, and therefore also to deliberation, there is requisite a reciprocal definiteness of the perceptions, leisure and delay, composure and reflection. The contrasting perceptions (§ 26) must be capable of becoming effective, and requisite calm must be afforded to the *I*. Neither of these occur in mental disease. Through the cerebral affection, dispositions and instincts are produced which become points of origin of emotions. If out of these, again, false opinions arise, they cannot be rectified, and the patient cannot see his error; at first, because the persistent emotions do not permit the calm necessary to allow the contrasting perceptions sufficiently to develop themselves, and the longer it continues the more do its results, the false judgments, become fortified and consolidated; later, however, because those false judgments have become integral fundamental parts of all the groups of ideas of the *I*.

In every fully developed mental disease it is therefore impossible for the patient to recognize the falseness of the morbid perceptions. This fact is confounded to a very great extent with loss of reflection, spoken of in § 27. But by that even the insane have also lost their reason, and on the ground so well stated by Herbart, that "their thoughts do not admit of being disturbed in their special course by means of external or internal opposition." Also in health, all kinds of caprices, false opinions, foolish thoughts, pass through the brain; but one can, if he be not actually in a state of emotion, calmly accept or reject them.

§ 35. Recovery from insanity ordinarily takes place only in [illegible] ary period, which, however, often continues for a series of [illegible] which it principally depends on emotional states. Inasm [illegible] removal of the disease of the brain, or of its [illegible] the morbid dispositions and emotions disappear, the false judgments which were based upon it must likewise disappear, and the group of perceptions of the, now no longer shaken, *I* enter immediately into their old direction. Should, however, the organic causes of the cerebral disease not have been removed until the false opinions have entered into manifold combinations with the groups of perceptions of the *I*, the patient may certainly recover; but his recovery will be a longer and much more gradual psychological process, until, through strengthening of the former normal direction of the thoughts, the connections which the false opinions had contracted with the *I*, gradually loosen, and eventually are entirely dissolved. Many convalescents do not recover completely until they return to their homes and to their former relations of life, employments, etc. When, however, the old *I* is vitiated, corrupted, and falsified on all sides by the morbid false ideas—when, besides, the group of perceptions of the former *I* is so completely repressed (forgotten), that, without any trace of emotion, the patient has exchanged his whole personality, and has scarcely any remembrance of it, then recovery is next to impossible, and only occurs in rare cases through excitation of violent emotions, and thereby through a kind of mechanical training (as attempted, for example, by Leuret[1]), continuously to repel the *appearances* of the insanity. Naturally, this can only be attempted where the brain has not as yet sustained any deep organic lesion: where this is present, as in many of these states, especially in secondary dementia, all hope of recovery is past.

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[1] Du Traitement moral de la Folie,' Paris, 1840.

CHAPTER IV.

THE ELEMENTARY DISORDERS IN MENTAL DISEASE.

§ 36. PREVIOUS to the consideration of those complex groups of symptoms which constitute the special forms of mental disease, there are some general relations which require to be briefly noticed; especially the separate elementary disturbances which are always found, differently grouped together, in the various forms of insanity (melancholia, mania, etc.). In those cerebral affections which come under consideration as mental diseases, there are, as in all others, only three essentially distinct groups—namely, sensitive, motory, and mental (perceptive) anomalies. Thus, according to this threefold division, we have to consider successively each of the three leading groups of elementary disturbances—intellectual insanity, emotional insanity, and insanity of movement.

Of all these states, the mental disorders are certainly the most striking, the most characteristic, and those upon which the diagnosis is based;[1] but we must not consider that the sensitive and motory morbid processes are only accessories. The anomalies of sensibility play an important part in insanity; disorders of what we call the imagination (§ 18) extend over a great part of its sphere; and the anomalies of movement which at first sight seem quite foreign to insanity, form, as we shall afterwards see, some of the most weighty points of anatomical diagnosis and of prognosis.

SECTION I.—*The Elementary Intellectual Disorders.*[2]

§ 37. The essential characteristic of insanity, that which distinguishes it as a morbid state, consists chiefly in the fact that certain states of the brain—certain dispositions, feelings, emotions, opinions, determinations—proceed from within outwards, owing to disease of the organ of the mind; while, in the healthy state, our emotions, opinions, determinations, originate only upon sufficient external motives, and on that account also stand in a certain harmonious relation to the external world. No one wonders if any one who had sustained a great loss is sad, if another to whom an earnest wish has been fulfilled manifests exuberant joy; but we rightly consider it as a morbid symptom when an individual without any external motive is depressed with sadness or elated with joy, or even, where some external cause has been given, the individual is immoderately or for too long a time affected by it, as when a trifling occurrence excites an individual to violent rage which he is unable for a long time to restrain.

According to the same fundamental principle, we judge of all events in the nervous system. Fatigue after a long march is normal; persistent weariness after sufficient rest is morbid. A shivering sensation experienced when the air is chill is normal, the sensation of cold when the external temperature is high is morbid.

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[1] In considering the mental anomalies, it is necessary to allude to much in the previous section which will not be again repeated. For the elucidation of certain points which are therefore but cursorily mentioned, the reader may refer to §§ 18–35; there is much, however, which cannot be properly explained till we come to describe the various forms of insanity.

[2] For the paragraphs immediately following see Zeller's 'Re [illegible] n Guislain's Phrenopathie.' Stuttg., 1838.

Numbness of the leg from pressure upon the nerves is certainly slightly morbid, but it is normal when compared with persistent numbness due to an internal cause, as disease of the spinal cord. So, too, the condition is morbid when a slight cause excites disproportionately violent reaction—if walking a few steps causes fatigue, or when a gentle breeze excites shivering. In these respects, however, the limits of disease and health are by no means clearly defined, since there are many states of this description, especially such as are transient, that are not ordinarily considered as diseases. A glass of wine can elevate our spirits without external cause for joy. Here, by means of the alcoholic, a cerebral state, an expansive disposition, is induced from within outwards; a weak analogy to insanity, which, however, no one has designated a disease, as it quickly passes off without any durable effect.

Very much depends upon the duration and intensity of the phenomena, whether we consider the mental state as morbid. Every one knows from personal experience, that occasionally there may originate in us, without outward motive, dispositions lively or sad, tender or bitter—states of mind which arise out of slight changes in the organic processes, and only recognizable by careful attention. These dispositions are not morbid when moderate and of short duration, and thoroughly subject to the control of the mass of perceptions of the *I;* but they are morbid when they constantly and in every matter intrude themselves on the individual, when they can no longer be removed by outward mental excitation, and when, instead of being controlled by the group of perceptions of the *I*, they affect us tumultuously and excite a lasting state of painful internal disquietude. As with such dispositions, so also is it with single distinct perceptions. A strange or foolish thought may pass through the mind of the most rational man; if only it does not lodge there, but is by a powerful *I* soon again forced out of consciousness, no one can call this morbid. In insanity, however, such dispositions, such thoughts, are persistent; they, owing to the duration and strength of the cerebral affection, become persistently and deeply impressed upon the mind.

§ 38. In order to a correct understanding of insanity, we must ourselves endeavor to think with the insane. From the mental states which are still within the limits of health, and therefore within our own experience, we may form some conception of what takes place within the diseased mind. The phenomena of dreaming, the state of the emotions, mental fatigue, etc.—especially, however, the above-mentioned moderate changes of disposition which in health arise spontaneously out of slight physical disorders—are for this purpose especially instructive. For, observation shows that these phenomena, on the one hand, of anger, of inclination to rage, of discontent, rancour, and, on the other, of joy, gaiety, frolic, are frequently, and with unwonted persistence and intensity, found to be marked elementary phenomena of insanity; consequently, many of the conditions of healthy life are met with in insanity, and are by the comparison considerably elucidated.

But we find other psychological anomalies in the insane to which there is nothing analogous in the state of health, and for this reason we are unable fully to comprehend them. Thus, we cannot form any clear conception of what is meant when we hear insane persons complain that their thoughts are entirely made for them by others, or that they are abstracted from them, or when we see how, with particular words and gestures, they associate some very mysterious sense, and attribute a secret importance to them. The deepest mental fatigue cannot even afford any analogy approaching the destruction of thought occurring in dementia; scarcely even can the peculiar states of sleep and dreaming convey any adequate idea of it. Whoever has experienced the delirium of fever may, therefore, form some notion of what takes place in mental disease.

In the following paragraphs, in speaking of the individual morbid states of disposition, thought, and effort, we will always refer to the corresponding physiological states. This threefold division of mental disturbances is merely conventional to render their study more simple; their more intimate relations will be understood from paragraphs 25–34.

A. *Anomalies of Sentiment.*

§ 39. Observation shows that the great majority of mental diseases are first manifested, not by senseless discourse or extreme acts, but by morbid changes of disposition, anomalies of the self-sensation and the sentiments, and consequent emotional states. And, indeed, the earliest stages of insanity generally consist in an aimless feeling of ill-humor, discomfort, oppression, and anxiety, owing to the fact that the new groups of ideas and instincts resulting from the cerebral affection are usually at first exceedingly obscure. On this account, the disturbance of the normal process of thought and will, and the new mental states obtruding on the *I*, are first felt simply as vague modifications of the sentiment and disposition. The diminished power and energy of the *I*, the contraction of its sphere of ideas, produces an indefinite state of mental pain, and, from its vagueness, great irritation of the feelings. The new morbid perceptions and instincts produce divisions of the mind, a feeling of division of the personality, and of imminent annihilation of the *I*. The mental pain discovers itself in some of the familiar forms of agitation, anxiety, sadness, and entails all of the forementioned (§ 21) consequences of a radically changed reaction towards the external world, and of a disturbance in the motory function of the mind. Perversions of the natural feelings, aversion and hate towards those formerly loved, outward insensibility, or a morbid fondness clinging to a single object, but without the depth and tenderness of the normal sensation, and subject to rapid and capricious changes, are here ordinary appearances. The increased sensibility involves everything, because, indeed, it is painfully affected by everything, and, from the mournful complexion that pervades all his views and opinions, the individual puts an evil interpretation upon everything present, and discovers in the future nothing but evil. Distrust and suspicion are engendered by the feeling of diminished power of resistance, and are constantly excited by bodily feelings of anxiety. Everything appears strange to him, because he acts strangely towards every mental impression, because he himself feels altered, and he feels a strong inclination to ascribe his condition sometimes to the direct influence of the outer world—to believe that he is pursued, influenced, charmed, governed by secret influences—and at others to refer to his former life for the causes, and to accuse himself of a variety of serious crimes, depravities, and misdeeds, of which his present position is the necessary consequence.

Here the most varied modifications of those fundamental states are to be observed; sometimes an entire absorption of the individual in self, sometimes total despair, frequently malevolence; occasionally sympathetic tenderness, persistent self-torture; sometimes continual dissatisfaction with the external world; sometimes weariness of life and calm determination to commit suicide; sometimes dread of death, of the pains of hell, etc. Frequently the patient is conscious of the commencement of insanity, occasionally he seeks advice, and we have known patients in the preliminary stages voluntarily coming from great distances to the asylum.

The above-named states are the foundation of the various forms of melancholy, although they present themselves also in other forms (as in chronic mania). In the majority of cases the patients feel great disquiet, even misfortune, which may probably have originated the old appellation of *morositates* applied to all who were mentally diseased. The analogues in healthy life corresponding to these states are, all depressed dispositions and emotions, discouragement, immoderate irritability—habitually bitter, discontented, and self-vexatious frames of mind—as are occasionally observed in highly intellectual minds (J. J. Rousseau); groundless jealousy, anger, fear, irritability, etc.

§ 40. The morbid states of emotion with a disposition to gaiety, cheerfulness, frolic, with increased mental and bodily activity, are closely analogous to the expansive emotions, and they are both followed by essentially the same immediate consequences. There is, even in health, a possibility of being "joy-mad;" a state in which, not only the feeling of present happiness expands all the powers of the soul, but the dreams of the future seem to be realized, and in which men and things come nearer to us—in which we could allow every man to share our fortune, and could, as it were, embrace the world. Even in these states it can attain to a certain degree of disorder and incoherence of the ideas, and it always shows that the excitation is not deep when the fortunate one can quickly regain all his faculties. Also in health there is usually combined with these feelings an impulse to external movement, restlessness, talkativeness, and business. These states are similarly exhibited when they originate morbidly, from within outwards; they generally form the fundamental states of monomania, and are present, although in a much weaker degree, in chronic mania and dementia. In accordance with what we have ourselves observed, we must coincide with the view of Guislain, that joyous insanity almost invariably makes its first appearance as succeeding states of depression that have passed off. On this account it seems also to depend upon a mental disease more deeply seated than the latter-mentioned state. It seems often as if, upon a change in the state of the brain, the previous oppression weighing upon the soul were suddenly removed, and as if, as a symptom of still deeper destruction, the feeling of great mental freedom, the happy hopeful disposition could arise. A remote analogy taken from the sensito-motory nervous system presents itself in the fact (Purkinje) that when the extremities are weighed down for some time by attached weights, immediately after their removal there is experienced an unusual sense of lightness of movement.

Besides, there are presented a number of other morbid dispositions and emotions, odd capriciousness, inclinations, and aversions, sensuous and ideal love, coquetry, etc., too numerous to be individually stated.

With the appearance of these various anomalies of sentiment, commonly, the relation of the individual to the outer world, his whole character, his desires and tastes, are totally changed. The amiable man becomes fierce, the parsimonious prodigal, the moral licentious, the modest proud and insolent. The changes of the character are generally the most striking symptoms in the early stages of insanity; and generally the insanity itself, in these cases of slow gradual origin, appears simply as an excessive development of the natural disposition or peculiarity of the individual. Therefore, from the peculiarities in the sentiments of the patient, it is only with the greatest caution that we should venture to express on opinion as to his former character. Extreme viciousness and malevolence can, for example, during the duration of the malady, continue for years in men of at other times kind and benevolent natures, and on recovery the old dispositions may be quickly revived, and no trace left of the disease.

§ 41. The anomalies of emotion which have been hitherto described are to be regarded essentially as appearances of abnormal emotional irritability. There are also, however, abnormal states of dulness, and even of total loss of emotion. Here either the occasional perceptions are no longer connected with the changes in the relation of tension of the quiet masses of perceptions of the *I* which occur in the healthy state—there is little or no disturbance of the emotions generally—or it may be that these events occur indeed, but they are no longer known to the individual, and therefore have no existence to him. To all that formerly interested him he is now equally indifferent, and he is no longer capable of being much affected by any new sentiment; participation and interest, pain and pleasure, love and hate, cease. Apathy and indifference to everything beyond the satisfaction of his sensuous requirements succeed. Intelligence can thereby be tolerably maintained, but generally a greater or less degree of dementia is apparent.

Perversion of the affections is a state of considerable importance in a medico-legal point of view, and one which is frequently difficult to distinguish. It appears as a morbid state acquired principally by onanists and drunkards, and is recognized to be a disease, especially where it originates rapidly. It forms an essential element in very many states of chronic mania (see Book III.), where commonly all interests are extinguished excepting such as relate to certain insane ideas and to the individual himself; indeed, there are cases where the perversion of the affections and the apathy appear as the chief elements. In a remarkable medico-legal case which was decided by the opinion of the author (Seitz), the crime—the murder of three of his own children—proceeded directly from this anomalous state of the affections. And, indeed, in crimes of this kind, where the patients are *quite rational*, the physician cannot be too careful to discover conditions of this nature.

B. *Anomalies of Thought.*

§ 42. Within the sphere of distinct perception, of opinion, and conclusion, we can readily distinguish two varieties of abnormal states. First, there is an abnormal relation of perception in the abstract; secondly, abnormal views in relation to its (false) objects. These states are intimately related, inasmuch as certain formal modifications, for example, too rapid succession of the ideas, extreme slowness in the course of thought, or disorder of the feelings which necessarily accompany them, excite or promote certain morbid ideas; for example, the moderate excitation of perception, where the combinations proceed with increased facility, is frequently accompanied by false judgments, which result from the feeling of mental liberty and mental well-being.

a. Formal Deviations.

Extreme sluggishness of thought depends either on suppression arising from violent mental pain, which entirely occupies the mind and permits nothing else to approach it, or on real weakness, especially loss of memory. In both cases, however different they may be as to their internal causes, there is observed poverty and sameness of thought, the train of thought appears to stand still; single words, modes of expression, movements, repeated for hours, show the continued presence of the same perceptions. There is often observed a hesitation of the speech, great uncertainty in the connection of the thoughts, and timidity in judging. This condition is found principally in melancholia and in dementia.

This insufficient interchange of the perceptions is a very important element in many mental diseases. The patient can no more thoroughly divest himself of certain perceptions, he is no longer free, he is continually exposed to their tormenting influences and impulses; he feels how, gradually, in spite of his opposition, his *I*, the oneness of his person, is being snatched from him. Similar states may be observed even in dreaming; many repugnant ideas by their constant recurrence induce a state of despondency. As will be found on minute consideration, sleeplessness often arises from the continued influence of a group of ideas; whenever these disperse sleep returns.

An increased production and accelerated flow of the thoughts in some degree facilitates mental combinations; therefore we sometimes observe individuals who at other times are even intellectually dull become acute and witty, especially in the happy expression of raillery against individuals present, versification, etc. On that account we hear little wisdom from the insane. Then, even in these states where abundant material is offered to the cultivated imagination, generally disorder and incoherence very soon appear. Particularly when great numbers of perceptions originate in the brain, and their course is accelerated, are they succeeded by long series of ideas; and frequently long-forgotten images and events, words, songs, and so forth, are renewed with the freshness of first impressions; but, inasmuch as the perceptions so rapidly succeed each other, that they cannot enter into the necessary combinations, and inasmuch as the multiplicity of thoughts is attended by corresponding changes in the sentiments, the only result is extreme agitation and tumult of ideas. All is hurried along in the most confused succession, and it is a chance if here and there in this turmoil the elements of a quaint idea meet together which is in the least more rational than what surrounds it.

The latter states appear principally in mania. There is often apparently great mental vivacity, especially at their commencement, and we have known cases where it was the invariable symptom of an approaching attack when the patient became witty.

Incoherence of the ideas does not, however, solely originate in this way, namely, through over-fulness of the consciousness. There is also incoherence of thought and speech corresponding to projections of the thoughts and of the emotions, as anger, and still another which proceeds from complete abolition and deep destruction of the mental processes. The psychological mechanism of this last condition is still very obscure in its details, it appears that the incoherence frequently depends on the fact that the perceptions are called forth, not only according to their (similar or contrasting) contents, but especially according to external similarity of sound in the words. Perhaps deficient reciprocal action of the two halves of the brain may have some influence in producing incoherence. Incoherence is frequent at the commencement of mental diseases, where there is violent disturbance of the emotions, and here it is no more an evil indication than it is in the delirium of fever or in dreams. On the other hand, the incoherence which first appears after a long continuance of melancholia and mania, or at the commencement of chronic insanity, is significant of a transition to the incurable forms of dementia.

Two marked examples of temporary incoherence from transient disturbance of the brain in otherwise healthy persons, with a clear description of the progress of the symptoms, by Spalding and Gädike, may be seen in Jessen, "Versuch einer wissenschaftlichen Begründung," etc., 1855, p. 180.

To the morbid states of thought described in this paragraph there are found many psychological analogies, partly in the determined persistence with which disagreeable ideas often follow us, in intimidation of the judgment by an adverse occurrence, also in so-called sulkiness and in confusion of the ideas owing to fright. To the second series in loquaciousness without ideas, in the internal confusion which originates from abundant simultaneous reception of ideas which have no common characteristic or leading direction, or in the incoherence of images in dreams.

§ 43. Memory in particular is very variously affected in mental disease. Sometimes it is unimpaired as regards the events of the former life as well as the occurrences during the disease. In the preceding paragraph we have spoken of its morbid increase. It is more frequent, however, to observe enfeeblement of the memory in various modes. Dementia in particular is characterized by feebleness of such a kind that events happening at the present time are quickly, even instantaneously, forgotten, while there is distinct recollection of events that took place in former periods of life, which may even be the subject of tolerably well-ordered conversation. At other times the contents of the previous life are either (seldom) completely effaced from the tablets of the memory, or (more frequently) are so far removed that they become so vague and so strange to the individual, that they can scarcely be recognized as events in his own history. Here the actual individual existence is dated from the commencement of the disease, and the entire former life is either attributed to a strange personality or at least to a former quite different state, to an imaginary life. This estrangement, this complete falling away of the former *I*, depends, not only upon weakness of memory, but ordinarily it is produced and rendered persistent by special sensitive anomalies; but the disappearance of whole masses of former perceptions is especially favorable to the consequent internal production of such a delirium.[1]

An individual who has recovered from insanity generally remembers what occurred to him during his disease, and can often narrate with remarkable truth and precision the most trifling incidents in the outer world and the minute details of his motives and sentiments during the disease. He can often interpret every glance, word, and change of expression of his visitor—circumstances which suggest an incidental caution to those who have to do with the insane, to be constantly on their guard as to how they conduct themselves, to be just and mild, if indeed such an exhortation be required! This kind of intelligence is especially observable in those who have recovered from melancholia and moderate states of mania, less frequently after monomania, of which the patient generally retains very confused ideas. The statement of one who has recovered, that he has no knowledge of anything that occurred during his disease, is to be received with caution, since the patient often conceals what he clearly remembers through deceit.

With the anomalies of form which have been described there are frequently connected changes in speech and the modes of expression. Many are dumb owing to a cessation of perception, or even where numerous perceptions are present, because no reflex action occurs in the apparatus of speech. Others speak incessantly, their narratives are endless, or, without communicating anything precise to a listener, the continuous reflex action in the organs of speech proceeds as incessant prattle (logomania proper, generally with incoherence). Frequently it is rather the formation of sentences and the mode of expression that is altered; they are more fluent or interrupted, disconnected, affected, etc. In other cases, which are the most interesting, there appear in the language of the insane newly formed words, and old ones are employed with new significations; in short, the patient forms for himself a new language. It would appear that occasionally ordinary language is not sufficient to express completely new and strange contents of sensation and perception, and therefore new words are formed, or that in the abnormal cerebral state the conventional images of sound (words) directly stir up and allude to other perceptions (see § 17), or that frequently the hallucinations of hearing immediately necessitate the formation of new combinations of syllables, which are then retained and held fast (in dreaming also there is thus formed new words). All these changes appear most highly developed in chronic mania, more transiently in mania.

The altered modes of expression, under certain conditions, present to the practised physician direct points of diagnosis; those who feign insanity imitate

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[1] Examples are found in § 49 and in "Dementia."

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these states very clumsily. See Snell, 'Zeitschrift für Psychiatrie,' 1852, ix., p. 11; W. Nasse, ibid., 1853, x., p. 525; Martini, ibid., 1856, xiii., p. 605; Brosius, ibid., 1857, xiv., p. 37; Blandet, "Du Délire phonétique," 'Gazette Méd.,' 1845, No. 27.

b. Perversions of Thought—Delirious Ideas.

§ 44. Mental disease does not necessarily imply the existence of delirious perceptions. Marked changes in the character and in the sentiments, morbid dispositions and emotions, blunting of the sentiments, total or partial relaxation of the mental powers, can exist without truly insane ideas, as acute and chronic morbid states of the mind. A number of such cases may be comprehended under the class of moral insanity (*Gemüthswahnsinn*). But experience teaches that, in the great majority of cases, the mental derangement does not cease here, that special insane ideas are developed, and that these false opinions which can no longer be regulated are accompanied by true delirium, the mental affection, which at the commencement was only an insanity of the feelings and emotions, becomes also *insanity of the intellect.* The pressure of the morbid uneasiness tends rapidly to incorrect perception and interpretation of objective relations, but, at first, only of such as relate to the patient himself or to his immediate surroundings. The false contents of the thoughts, *i. e.*, which are not in harmony with the external world and with the events of the former life, at first generally happen in such a way that the patient attempts to account for his dispositions and morbid emotions by the law of causality (§ 23, 39). The most varied external causes and events, and the innumerable recollections of his individual existence, afford abundant material for this attempt at explanation, and circumstances, education, and the views of life, have here the most decided influence. For example, the same disposition which excites in the superstitious mind the idea of witchcraft may in another suggest the idea of being pursued by freemasons, of invasion through secret magnetic influences, etc. All hallucinations have a special influence, as well on the formation of such insane ideas as on their special objects; they are so frequent, present materials for explanation so lively, obtrusive, and often so constant, that in our experience we must find them to be a common source of insane ideas; thus, the subject of an hallucination of sight who sees fiery appearances believes himself in hell, another with an hallucination of smell thinks he is surrounded on all sides by dead bodies, the effluvia of which he believes he smells, and thereon founds further conclusions, etc.

As to their contents, two leading differences are particularly to be observed in insane conceptions—first, joyous, sublime, brilliant ideas; secondly, sombre, sad, and painful thoughts. The former arise from the expansive emotions and from cheerful joyous hallucinations, the latter from depressed states of the disposition, and gloomy ill-boding hallucinations, as language of abuse and mockery which the patient is always hearing, diabolical grimaces which he sees, etc.

The false ideas and conclusions, which are attempts at explanation and vindications of the actual disposition in its effects, are spontaneously developed in the diseased mind according to the law of causality; on the part of the individual the explanations do not imply reflection, still less are such conclusions formed by the tedious form of syllogism. At first, the delirious conceptions are fleeting; the *I* perceives them, it may be terrified by them, acknowledge their absurdity, and yet feel quite unable to rid itself of them, and struggles with them; gradually, by continued repetition, they gain more body and form, repel opposing ideas, and form connections with similar masses of perceptions of the *I;* then they become constituent parts of it, and the patient cannot divest himself of them, or only in some degree by exchange with similar false perceptions. The excited, lively, and happy insane ideas are naturally received by the *I* much more easily and completely; it yields to them after a short resistance, and then it occasionally gives itself over to the insane perceptions, half-conscious imagination in a world of happy dreams arises.

All false ideas, however, are not to be considered as thus explicable; many originate with the fortuitous abruptness of hallucinations, or of those peculiar quaint thoughts which often spontaneously intrude on the healthy mind during its most earnest employment. They often originate simply from phantasms of sense, dreams, owing to external circumstances; their persistence depends on the present disposition of the patient, and whether in the present perceptions any material for connection is found. We will find, on careful attention, that many such ideas in the insane are related to hallucinations, which, however, do not clearly show themselves.

In the early stages of insanity, when the disorder of the emotions is still the principal element, innumerable strange perceptions begin to pass through the mind of the patient; interweaving themselves with the ordinary circle of his thoughts, he can neither free himself of them nor assimilate them. At first fleeting and changeable, they gradually gain body and form, but still the emotional excitement is the foundation on which they stand or fall. The disturbance of the emotions gradually diminishes, and therewith do certain leading insane perceptions become proportionately fast rooted; gradually the entire mental life circles round them and assumes their character, that is, the incoherence becomes systematic. This, too, is still a period of mental activity; the transformation of the whole internal life still proceeds, partly with the actual consent of the *I*, with the co-operation of reason. When this process, which is always slow, is at last completed, then the stationary period follows, in which the insane ideas, now become fixed, exist merely as remains of former active processes.

We should speak of fixed ideas only where the false opinions have become radically and permanently fixed, as in chronic insanity. In melancholia, mania, and monomania, they frequently change. All the false opinions of the insane have the characteristic that they are related to the subject itself, or at least have been formed out of false ideas relating to him; they are thereby distinguished in a great degree, if not fully, from the errors of the healthy mind in reference to objective relations. Thus, an insane man may believe that all Jews are damned, but merely because he considers himself injured by them or because he has dictated this punishment; he may believe in the existence of a bridge from the earth to the moon, but only that he himself might walk upon it, or that its construction may afford a proof of his creative power. Nearly all fixed ideas are, when reduced to their fundamental elements, expressions of a frustration or gratification of what specially relates to the emotions, therefore their separate consideration, as if they were the chief points in insanity, always tends to a one-sided and narrow view, and the knowledge, as well as the medical treatment of them, can, in individual cases, rest only upon the view of the mental states lying at their foundation.

The insane ideas of the mentally diseased are distinguished from the erroneous views of the healthy, not only by the circumstance of their relation to the diseased subject himself, but also by numerous other essential characteristics. They are always connected with a disturbance of the whole mental process, (emotions, incoherence, etc.), whether it be that they arise therefrom (generally in the preliminary stages) or that they involve such disturbance. Often they are directly opposed to the former views held by the individual; he cannot get rid of them at will; they resist "against the testimony of sense and understanding," adjustment, and correction, and therefore stand in a quite different relation to the emotions and the will; they depend upon a disturbance of the brain which frequently shows itself in other morbid nervous symptoms (disorder of the sleep, hallucinations, paralytic appearances, etc.). We can easily see from this how unreasonable and fundamentally false it is to consider the errors, "the delusion" of by-gone ages, as the belief in witchcraft, enchantments, etc., as at all analogous to mental disease.

On the special form of the delirium, there is still another circumstance which exercises great influence, and which hitherto has not received sufficient attention, namely, that the nature of the delirium is often determined by the series of perceptions which last actively engaged the patient's attention immediately before the outbreak of the insanity. Consequently, if these are constantly dwelt upon by the patient, it is often erroneously supposed that they have been the cause of the insanity. while, on the contrary, they may have been completely or to a great extent fortuitous.

In the year 1848, when all the world was engrossed in politics, it was believed that in many cases politics had been the cause of insanity. Flemming ('Psychosen,' p. 158) brought forward two examples where the patient had attended the hunt shortly before the outbreak of the insanity, and the delirious conceptions for a long time referred to the incidents of the hunt; another had just been reading an account of a journey to the Himalayas, and that formed the central point of the delusions. The same is observed in acute delirium. In a case known to me, where the last healthy employment of a typhus patient was reading the account in the newspapers of the war then raging in the Crimea, the delirium of the fever for several weeks was confined to the subject of that event.

§ 45. Whether the patient is affected by only a few or by very many false opinions, whether his delirium is partial or general, is to be considered in estimating his condition, and is at least of some diagnostic value, as the first case is observed more generally in melancholia and monomania, the latter in mania. But it is wrong to base a distinction of forms on the fact of the insanity being partial or general. Especially would it be fundamentally false to believe in the existence of states in which the patient has but one single, limited, fixed idea, while in all other respects his ideas are quite healthy. We shall afterwards see that even where this appearance can earliest arise, namely, in the form of chronic insanity, there is always present a deep inward destruction of the mental unity. So, then, the one-sidedness of the delusions ordinarily depends, not so much on the patient's having only one fixed idea as on the fact that the same idea is constantly repeated by him in preference to any other. Finally, these relations are subject to frequent change. The same patient, in the same form of insanity, can not only change his ideas from one day to another, but he can also to-day renounce false opinions upon many points, while, perhaps, the day before he was deluded only on one accustomed favorite idea.

The establishment of a class, monomania (in opposition to mania), which related less to the existing of a single fixed idea than to the one-sided dominion of a particular impulse (monomania of murder, of theft, etc.), by setting aside the most important relations, namely, the fundamental mental state, has united what is outwardly distinct and separated what is internally united; it is not, therefore, to be approved of.

Originally established by Esquirol, and always of more importance forensically than pathologically, this doctrine, even in the land of its birth, has fallen into a state of complete neglect. Bariod ('Etudes critiques sur les Monomanies,' Paris, 1852), Morel, Falret ('Archives Gén.,' 1854, Août), and in part also Brierre and Delasiauve, have declared themselves generally against it; more recently, however, the latter has candidly modified his views ('Des Pseudomonomanies, ou Folies partielles diffuses,' Paris, 1859). Scarcely any French psychologist now maintains it in its complete original sense. The discussion in the *Société Médico-*

psychologique may be consulted on this subject: it, however does not offer much real information.

The partial delirium, the government by a single delusion which becomes the centre of all thought, bears many analogies to the exclusive dominion of some particular class of ideas in health, or to the tenacious attachment to a favorite theory which to the subject of it is an element of his very existence, or to the domination of certain passions, as love, jealousy, pride, desire for pleasure, avarice, etc. These, in their higher grades, when they expel everything else from the mind, are equally destructive to the mental life, and many even in their expression, as in external distraction resulting from internal concentration, affectation, pleasure in outward pomp, present numerous resemblances to the corresponding forms of insanity.

c. Anomalies of the Will.

§ 46. Volition also presents in the insane many serious deviations from ordinary states of health, as well in those internal spheres where distinct perception is transformed into conscious effort as in those where indistinct, though not on that account less forcible, effort (impulse) is excited through sensitive impressions and obscure emotions.

In the first place stand opposed as extremes a total absence of volition and with an increased, even unlimited, power of will. Weakness of will may proceed from inability to form conclusions, arising from sluggishness of perception or the want of an *I* sufficiently powerful to determine volition from an undefined perception, or it may depend on the influence of deficient reflex action on the perceptions. These states manifest themselves in a hopeless apathy, or in extreme hesitation, irresolution, incapacity to call up the accustomed impulses of the will, for example, to ordinary employments, and are very frequent in the first, melancholic, stages of insanity. On the other hand, absence of volition (in dementia) originates from the absence of clear perceptions in general; with loss of thought, volition also ceases.

Increase of will takes the form of inordinate desire, a thirst for action, a passion for forming plans, attempts to realize all thought in effort, ruling peculiarity, powerful desire towards certain objects similar to the strong directions of the will consequent on the passions. It shows itself either as the frequent result of a weakened will, or it is really founded upon a feeling of increased bodily and mental power, very great vigor, and morbidly increased feeling of self. The last frequently appears in the form of so-called monomania.

In general, however, the morbid emotions bring along with them their corresponding states of effort, and these are the more clear and distinct, the morbid volitions are more special, in proportion to the distinctiveness with which the insane perceptions have been formed out of emotions or hallucinations.

As the reflex activity of the spinal cord may be morbidly excited by means of certain influences (as strychnia), or on the contrary diminished, it is the same with the brain. An example of general diminution of the cerebral reflex activity which is found in various acute diseases (very often in typhus), and in nearly the same form in many melancholic and demented states, and in the so-called *ecstasies*, is presented to us in the condition called *stupor*. Of partial diminutions there are numerous examples, but at present they are difficult to define and to point out. The clearest cases of increased reflex action are to be found in many conditions of excitement. It is possible that such increase may de
a state of the brain in which the diffusion of the impression (

place) is hindered or prevented. In the spinal cord we see that when the transmission of the central apparatus is interrupted by a transverse section, the reflex acts become stronger in the part below the point of section.

Absence of will (*abulie*) is discussed by Leubuscher in the 'Zeitschrift für Psychiatrie,' iv., 1847, p. 562.

§ 47. Of all the morbid desires, the violent impulse to muscular activity, to bodily movement, is particularly to be noticed, as it is seen, especially in states of mania, as a constant necessity to restless motion hither and thither, beating about, screaming, etc., a state which frequently involves the injury and destruction of what is within reach of the patient, without his having any definite purpose in doing so. The patient seeks and finds relief from his inward pressure and the burden of his feelings by throwing them outwards (§ 25); those states in which violent feelings of anxiety or certain shocking ideas urge the patients to take to the commission of certain definite misdeeds come under the same category. This impulse towards a definite end, towards some decision of his painful condition, may become so violent as to induce the patient to the perpetration of deeds which in other states he would resolutely shun, owing to the feeling that thus alone can deliverance and rest be found. Therefore, if we closely examine, as we ought, according to their motives, the several known cases in which the insane have manifested their disease by dangerous and lawless acts (murder, suicide, incendiarism, robbery), we will thereby discover the great differences that exist between their respective fundamental causes. We immediately feel how unsatisfactory it is to arrange such cases according to the nature of the acts committed, or according to a special impulse to murder, incendiarism, suicide, etc., or to consider them as "pure diseases of the will" (monomania in the sense of lesion of one of the faculties of the mind, of the will), and that it is necessary to judge of them individually according to the fundamental morbid states of the mind from which they proceed. Therefore, the several impulses of this kind recur as motives sometimes melancholic, sometimes maniacal, sometimes partially demented, and we shall have again to refer to them in the special consideration of these forms of insanity.

In such tendencies to devise mischief, to tear the clothing, to destroy the furniture, to conceal things of value, to steal, etc., as also in many other strange actions of a harmless nature (as always undressing), the patients are sometimes prompted only by a general necessity to destruction, in order to free themselves of their ill-humor, to vent their rage, sometimes by distinct motives, and only in the most rare cases should these acts be considered as purely automatic. Either hallucinations enjoin them to such acts or the effort by a violent daring deed to procure rest from internal anxiety or delirious conceptions proper. Zeller ('Bemerkungen zu Guislain,' p. 490) records a number of such cases, with the motives given by the patients. "One of our patients beat out all the windows within his reach with the greatest quietness and composure to procure glass for the filling up of mouse-holes, another that he might be able to coin crown thalers to his heart's desire. Another deliberately tore all his shirts to pieces in order to collect lint for the military hospitals; another took down the stove to light his pipe, and then leisurely replaced it. Another broke the chairs into pieces, and, in answer to my question why he acted so foolishly, he replied while quietly proceeding with his work, and without looking up, 'Philosophy must conquer æsthetics.'" Nevertheless, in such cases we must not place too implicit confidence in the patient's account of his motives; they are often extremely reserved in giving their *real* motives; and many such cases remind us of the scene in Shakespeare where Falstaff when in a dilemma always answered "in starched linen" (*in Steifleinen*)??

Whether, and to what extent, certain directions of the will and impulses in the insane, particularly such as lead to criminal acts, are irresistible, is a question which can scarcely ever be answered with certainty. Few of the acts of the insane have the character of forced, purely automatic movements; in mania also, according to the testimony of individuals who have recovered, many of the wild desires could often be restrained; the criminal deeds of the insane are not generally instinctive. The loss of free will (or, if we choose, irresponsibility), therefore, seldom depends on the fact of inability to have abstained from the act committed, or that the normal conditions of volition have been completely suspended. The causes of this loss of free will chiefly depend on quite a different cause, they depend on violent excitation of the emotions, or on incoherence, on false reasoning proceeding from delirious conceptions, hallucinations, etc., and on the circumstances mentioned in § 27.

In the criminal acts of the insane the circumstances worthy of minute investigation are whether the patient manifested a similar tendency (as to steal) even in health, which is only now showing itself when the power of the reflection is suspended, or whether the desire first arose with the insanity, and disappeared on recovery; whether it really proceeded from morbid emotions and insane ideas. See Jakobi, 'On Cleptomania,' in Jacobi and Nasse's 'Zeitschrift,' 1837, 1 Heft, p. 179; Hoffmann, "On Cleptomania," 'Günsburg Zeitschr.,' 1, p. 299.

To the manifestation of such desire, to the free disclosure of tendencies which are generally concealed, to certain morbid impulses may be referred much of the peculiarity which distinguishes the conduct of the insane. Each has its analogy in healthy life, partly in those peculiar habits and caprices which are occasionally observed as curious appendages to great and energetic intellects (which form the materials of many anecdotes relating to learned men), partly in the directions of the will and the modes of action of the passions and emotions. These in detail afford materials for numerous comparisons, and we find in the poets who dwell much on the emotional states numerous analogies by way of example. Thus, when the melancholic has the impulse to leave his home, and roam in the open air because it appears too confined for him, and because he expects alleviation from his state of internal pain by outward disquiet and change, so the same appears in cases of real mental pain, where the sufferer spends his life in the open air, or even in distant lands, in the world, in order to recover internal calm by outward disquiet and restlessness. Eichendorff has well expressed this disposition in one of his well-known songs.

SECTION II.—*The Elementary Disorders of Sensation.*

§ 48. Previous to the consideration of anomalies of sensation—so important in insanity—we shall consider the various modes in which the general feeling of illness is manifested. In the majority of cases of mental disease this feeling of illness is altogether absent; generally, therefore, the patients do not feel ill, and often protest against medical treatment. Indeed, in not a few cases of serious mental disease there is, instead of a feeling of illness, a sense of extreme well-being, of increased bodily power and vigor. Such patients (maniacs) are often angry and irritated when any doubt is expressed as to their perfect health, and voluntarily refer to their excellent appetite—morbidly increased—to prove it. This absence of the feeling of illness is observed in a number of brain affections, sometimes after injuries of the head, and very commonly in acute meningitis and the affections of the brain in typhus fever. At the height of the disease, when interrogated, the patient generally answers that he is quite well, occasionally even he assures us that we are much deceived by considering him as ill, while, when the d[illegible] and the symptoms alleviated, there enters a strong feeli[illegible] depression and fatigue. This feeling, then, is generally present in convalescence from these forms of insanity.

There are, on the other hand, other states of insanity where the feeling of illness is not only present, but seems, in relation to the objective symptoms, to be immediately increased. The patient is thereby deceived as to the objective facts of his state of bodily feeling and indulges in false ideas of serious special disease. There is thus formed a disproportionately strong or persistent feeling of illness, a fundamental element of the hypochondriacal state, and it is characteristic of these that they generally are not confined to general impressions of bodily discomfort, but, as the attention is directed to the individual organs, disagreeable feelings are awakened in each of them. The same condition of the nervous centres is found in an acute manner in the early stages of most severe fevers, but then there is no time for the attention to become fixed, and the feeling of illness is soon justified by severe objective symptoms.

§ 49. There are, besides, numerous other anomalies of the general sensibility. In the first place, those extensive modifications of the sensation of self which ordinarily accompany serious affection of the mind (§ 43), and which establish the idea of transformation of the person. The patients renounce their former personality, and consider themselves sometimes animals (wolves, oxen, etc.), sometimes historical individuals (Napoleon). Sometimes the whole body is considered dead, or as not really theirs, or as composed entirely of inanimate substances, as wood, glass, wax, butter, etc. At other times the body is merely felt to be extraordinarily heavy, or to have acquired a very great circumference, etc.

On the other hand, these anomalies of the general sensation are sometimes local, confined to certain parts of the organism. The patient supposes that certain of his members are wanting, or that they are not connected to his body in the way they used to be. For example, he thinks that he no longer has a head, that one of his arms or legs is petrified or made of glass. Or he feels as if a certain part were uncommonly large, and the nose in particular is, in many cases, the object of this illusion.

There are, besides, observed in the insane, as more transient states, sensations familiar to many healthy persons in dreaming, of flying high in the air, of being precipitated from a height, or of general giddiness. Sometimes a veritable *aura* is felt before an attack, as it is before an epileptic seizure.

The seat and the more immediate cause of these anomalies of the general sensation are difficult to understand. In several cases, indeed, they depend—for example, the feeling of absence of a part of the body—on evident anæsthesia, or more frequently an analgesia of the organ. At other times, however, the peripheral sensibility of the cutaneous surface, and perhaps even the sensibility to pain, is fully maintained, and obscure modificatians of the muscular sensibility, which likewise appear to play an important part in ordinary dreaming, may be the original disorder which the explanatory reflection lays hold of to form delirious conceptions. The transformation into animals appears to be much more related to the mind in its origin, and the basis of this false idea may depend on the appearance and influence of certain instincts peculiar to certain species of animals, as the cruelty and ferocity of the wolf. But here also a marked deviation from the normal general sensation is always necessary to the full development of the ideal metamorphosis.

Leuret ('Fragm. Psychol. sur la Folie,' Paris, 1834, p. 101) has made an interesting collection of several old examples of the so-called *Lycanthropia*, and several cases of more recent date of insane persons wandering in the woods and carrying off, and even killing, children, from a fierce instinct to murder. Wier narrates an example of a man from Padua who, in the year 1541, believed himself transformed into a wolf, and, on the open plain, attacked and slaughtered those whom he met. "I am really a wolf," said he, "and the reason why my skin is not hairy like that of a wolf is that it is reversed and the hairs are inside." To convince himself of this he made incisions in his body, and cut his legs and arms, so that he died of the wounds.

Examples of insane persons considering themselves dead, and not recognizing their body as their own, are numerous. Esquirol mentions that, in a woman who believed that the devil had carried away her body, the surface of the skin was completely insensible. This was also the case in the following example from Foville. A soldier considered that he had been dead since the battle of Austerlitz, in which he was severely wounded. When any one asked how he was he answered, "You ask how father Lambert is, but father Lambert is no more, he was carried off by a cannon ball at Austerlitz. That which you now see is not him, but merely a clumsy machine made to resemble him; pray make another." When he spoke of himself he never said *I*, but always *it*. The skin is insensible, and, several times, attacks of various kinds of immobility and insensibility have occurred.

A young epileptic, who had also numerous hallucinations of smell and of taste, sometimes felt his whole body of such an extraordinary weight that he could scarcely stand upright, at other times of such lightness that it seemed as if he rose from the floor and flew; besides, his body and his limbs seemed to him so enormously enlarged that it was impossible for him to pass through a door.[1]

To such states there are also analogues in acute diseases. A medical friend has frequently told me that he, in even slight febrile affections, has always the sensation of remarkable enlargement of the limbs.

A convalescent from fever believed that he was really two persons, one of whom lay in bed while the other walked about. Although he had little or no appetite, yet he ate a great deal, because he had to nourish two bodies (Leuret, loc. cit., p. 95).

Patients with paralysis of sensation of one half of the body have sometimes the idea that another person, or even a corpse, lies beside them in bed (Bouilland, 'Traité de l'Encéphalite,' Paris, 1825, p. 64). Such false opinions belong to the so-called illusions, soon to be considered; further examples will be given in § 61.

The sensation of flying in dreams appears to be due to acceleration of the inspiratory movements, and that of being drawn from a height to their becoming slower (Gratiolet); corresponding images are associated with these.

All considerable alterations of the common sensation are always amongst the most important elements of mental disease. When this general basis of the bodily sensations is falsified, corresponding false ideas are formed with extreme facility. These anomalies are always to be specially investigated, as they occasionally furnish indications for therapeutical treatment.

§ 50. The anæsthesias of the insane have to be considered more in detail. Diminution or complete suppression of the sensibility of the skin to impressions of temperature and of pain is by no means frequent, still less is it general in insanity. We find, on the contrary, in some instances an excess of sensibility to pain (Esquirol relates such a case), and it is remarked that in asylums in winter the patients, with very few exceptions, constantly seek the warmth. Nevertheless, cases of transient and persistent cutaneous anæsthesia (as already shown in the foregoing §), and of analgesia, are sometimes seen, particularly in states of melancholia and dementia, and confined to more local limits, is also frequent in hysteria. A careful investigation of the cutaneous sensibility in the various parts of the body should always be made.

Rochoux (Sitting of the Académie de Médecine, 22d Dec., 1840) communica
a case of accident which occurred through want of sensation in the pat
patient in Bicêtre, while no one was in the room, laid his head on th

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[1] Bottex, 'Essay on Hallucinations,' Lyons, 1856,

of the stove; and put his arm into the midst of the fire. The strong smell first drew the people near; the patient was quite unconcerned and throughout gave no sign of pain, though the arm was burned to the bone.

In the 'Zeitschrift für Psychiatrie,' xi., 1854, p. 717, there is an example of voluntary self-burning by a melancholic patient. He was quite happy, although legs, thigh, and nates were burned, so that even the bones were charred. A patient in Bedlam, mentioned by Morison, laid the back of his head upon the fire till the greater part of the cerebral coverings were burned; he, however, recovered. Michéa ('Gaz. Hebdom.,' 1856) cites a number of cases in which melancholics suffered mutilation without pain (analgesia), and it is interesting that this state often exists also in Delirium traumaticum (nervosum), so that the patients tear off the bandages, and use most regardlessly the broken limbs (Dupuytren, Klose).

Snell ('Zeitschrift für Psychiatrie,' x., 1853, p. 213), in 180 patients, found the skin quite anæsthetic in 18 (?), and in 6 there was analgesia; the anæsthesia in states of excitation and depression was present always in cases presenting little hope of recovery. A very remarkable case is communicated by Renaudin (Moreau, 'Psychologie Morb.,' p. 313), of a boy who had hitherto conducted himself perfectly well, and all at once exhibited the worst desires and most reprehensive behavior. He was not entirely insane, but the whole cutaneous surface became sensationless. This state was intermittent, and when it went off the patient became again quite orderly and obedient. Simultaneously with the anæsthesia the worst desires, even desire to murder, returned. In general paralysis, too, there is sometimes present an evident diminution of the cutaneous sensibility. Diminution of the sense of smell may be assumed in those patients who would amuse themselves with their excrements. All these anæsthesias must have a central basis.

We sometimes hear the insane, especially melancholics, complain of quite a different kind of anæsthesia, which is more related to the intellectual, most inward, act in sensation. "I see, I hear, I feel," say they, "but the subject does not reach me; I cannot receive the sensation; it seems to me as if there were a wall between me and the external world," etc. In such patients there is sometimes a diminution of the peripheral cutaneous sensibility, so that the subjects appear to them somewhat indistinct, as if rough, woolly; but this, when constantly present, does not explain the phenomenon. These modifications in the perception of sensations rather recall to us the changes which, in general, our mind undergoes in regard to the sensitive world, partly in the various ages of life, partly in the emotional and impassioned states. In the years of childhood we feel the world of sensitive appearances nearer to us, we live immediately with and in it, an intimate bond of a living dependence unites us to it. As the reflection becomes matured this bond becomes relaxed, the interest cools, things appear otherwise, and we become more strange to the outer world, although at the same time we know it better. Joy and the expansive emotions generally draw us again to the external world; everything creates anew a lively impression, and under the ready influence of sensuous impressions[1] joy exercises an immediate and reinvigorating influence. The opposite is the case with the painful emotions; the external world, animate or inanimate, appears to have become suddenly cold and strange; it seems also as if the objects of our affection no longer belonged to us, and, as nothing can now excite in us a lively impression, we become estranged to external objects, and more and more concentrated in ourselves (isolation). An analogy may be seen between these latter states and the complaints of the melancholics, as their intensity, their duration, and their want of mental motive, urge the patient openly to complain of such changes in his power of receiving impressions.

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[1] "Warum doch glänzt um uns das All?
Jeglichem Staub sein Herz erschlossen!"

Further examples of these conditions will be found in the chapter on melancholy. In another point of view they are also analogous to the faintness of sensorial impression during sleep.

§ 51. In Ecstasy, together with much diminished, or almost, or completely suppressed, external sensations, there exists a strong internal concentration on certain feelings, circles of ideas, images, etc., with great elevation and tension of the entire mental activity. This state is manifested by a very highly emotional expression of the countenance, in which there is depicted astonishment, rapture, pain, according to the nature of the emotions. It is generally accompanied by complete loss of speech, immobility of the limbs, and often by a cataleptic state of the muscles. The patients appear to be quite absorbed in their emotions, they generally refuse nourishment, and particularly does volition appear to be entirely prostrate. These states are not very frequent; they sometimes come on primarily after a violent shock, in hysterical insanity, in onanists, also in epileptics, and, now and then, in alternation with violent attacks of mania. Fasting, causes of weakness of any kind, want of sleep, appear to favor their origin. In the religious ecstasies of bygone times, of which we have reliable information, these causes appear also to have played an important part.

The diminished external sensibility combined with immobility of the body, sometimes even with abolition of hearing, cause this condition closely to resemble sleep; nevertheless, it is truly a state of wakefulness, with complete concentration on certain powerful domineering circles of ideas or sensations.

§ 52. But the most general and most important sensitive anomalies in states of mental disease are the hallucinations and illusions. By hallucinations we understand subjective sensorial images, which, however, are projected outwards, and thereby become, apparently, objects and realities. By an illusion is meant the false interpretation of an external object. It is an hallucination when I see human forms while in reality no man is near, or hear a voice which has not spoken; it is an illusion when I take a bright cloud in the heavens for a fiery chariot, or when I believe that I see an old friend when a stranger walks into the room. In hallucination there is no external objects, it is a false sensation; an illusion is a false construction, a transformation of a peripheral sensation.

The motive to this sensation does not necessarily require to exist in the external world, it may also be within the special organism, therefore, the false interpretations to which peripheral pains (neuralgic, rheumatic) are subject are considered illusions, as the idea of being pregnant, which proceeds from unusual abdominal sensations, or that case mentioned by Esquirol, in which a patient had pain in the knee, and kept striking it with the fist, calling out, "Wait, you rascal, you shall not escape me!"

The distinction between hallucinations and illusions was made by Esquirol. It ought to be maintained, although it cannot be adhered to with perfect exactness. In the senses of taste and cutaneous sensation especially the distin [illegible]
often impossible. In the other senses too, the view of illusions [illegible]
ments is, in many cases, too limited. They are, in the majori [illegible]
transformations of impressions transmitted by the organs [illegible]
example, a portrait on the wall appears to roll its eyes and [illegible]
or when the visage of an old woman appears to be youn [illegible]
internal images are substituted for real perceptions; it [illegible]

nation and real sensorial perception; the latter becomes thereby transformed in the sense of the dominant ideas and frames of mind. We can also express the relation between them so; the hallucinations are either quite complete when they provide the entire object, or they are incomplete (illusions) when to a real external object other qualities which it does not possess are attributed (Gratiolet).

The literature of sensorial delirium is very rich. Esquirol, several articles in 'Dictionnaire des Sciences Médicales,' and 'Traité de l'Aliénation.' Bayle, "Mém. sur les Hallucinations," 'Revue Médic.,' January, 1825. Müller, 'Ueber phantastische Gesichtserscheinungen,' Coblenz, 1826. Lélut, "De la Folie Sensoriale," 'Gazette Méd.,' 1833. Bird, "Thatsächliche Bemerkungen über Sinnestäuschungen," 'Friedreich's Magazin,' Heft 17, 1831. Dietz, "Ueber die Quelle der Sinnestäuschungen," ibid., Heft 111 1832. Leuret, 'Fragments psychologiques,' Paris, 1834. Bottex, 'Sur les Hallucinations,' Lyon, 1836. Marc, 'Geisteskrankheiten,' translated by Ideler, i., 1843. Hagen, 'Die Sinnestäuschungen,' Leipzig, 1837. Baillarger, in 'Arch. Géner.,' 1842–43. Patterson, 'Anal. Méd. Psycholog.,' Mars, 1844. Likewise the writings of Arnold, Reil, Haslan, Hoffbauer, Neumann, Friedreich, Jessen, Archambault in Ellis's 'Traité,' p. 180, seqq., etc., Sinogowitz, 'Die Geistesstörungen,' Berlin, 1843. Michéa, 'Du Délire des Sensations,' Paris, 1846. Baillarger, "des Hallucinations," 'Mem. de l'Acad. de Méd., tome xii., Paris, 1846. Brierre, 'Des Hallucinations,' Paris, 1847 (2d edition, 1853). Leubuscher, 'Ueber die Entstehung der Sinnestäuschungen,' Berlin, 1852.

§ 53. Hallucinations may occur in all the senses—in the senses of sight, hearing, smell, taste, and cutaneous sensibility. In individuals sometimes this, sometimes that, frequently several, occasionally all, these various sensorial functions are affected at the same time; the hallucinations are real sensations, not mere fancy. The patient really, and not merely thinks that he hears, sees, and smells; and should we meet the sensorial delirium with arguments of reason, we generally receive answers as Leuret did from one of his patients (' Fragments,' p. 203):—" I hear voices because I hear them—how they originate I know not, but to me they are as distinct as your own voice; if I admit the reality of your words, you must also allow me to believe in the reality of those voices, as to me both are equally appreciable." Thus, in the opinion of the subject of the hallucination his subjective sensitive perceptions have commonly the same reality as the objective perceptions presented by the external world, and to this very circumstance is in a great measure due the importance and danger of the phenomena. We are accustomed to trust our senses, to consider that as most true which we ourselves see or touch; he in whom false sensorial perceptions are substituted for those which are true, and the material of his ideas and their combination thereby falsified, enters a new sphere of appearances and of falsehood. He cannot distinguish them from the objective reality, according to which he regulates his thoughts and acts, and in general it cannot be forced on him by the opinion of a stranger; he is compelled to follow the deception, because to him it has the force of sensorial conviction; and not only are the most crazy and stupid ideas awakened and maintained in him, but very often the most dangerous misdeeds result from the hallucinations.

The subject of hallucinations may, at any moment, be incited by voices or visions to inflict violence on himself or others; for example, to murder in consequence of having had a command from God to deeds of vengeance for abusive language which he has heard, etc. The majority also of the crimes committed by the insane depend on hallucinations, a circumstance which, from the great frequency of hallucinations, is not to be wondered at. According to Esquirol, 80 in every 100 patients have hallucinations; Falret (' Leç. Clin. de Méd. Ment.,' Paris, 1854, page 151) gives, of course, a much lower proportion—about a third of the number of the patients.

§ 54. Subjective sensorial function is in itself not extraordinary; sensation originating through internal irritation, without external cause, is rather an everyday occurrence; our inner world of sense is ever active; indeed, all, even abstract, thought is accompanied by an inward hearing and seeing as an evident essential element of normal mental life. But the sensations which thus originate are generally very weak, and this is what distinguishes them from the external perceptions; indeed, during sleep, when the sensations originating internally cannot be compared with peripheral impressions, they often assume for us the strength and the character of external sensations, also during waking they may by degrees become stronger and more active, and at last resemble reality. These constitute the pathological states of irritation of the nervous system.

Physiology shows that the nerves of special sense react towards all irritation according to their own inherent energy. The compressed or congested retina gives light, the irritated auditory nerve sensations of sound, etc. Shall we, therefore, consider hallucinations as the simple results of irritation of the peripheral expansions of the corresponding nerve? This is impossible, in the first place, and principally because hallucinations can exist where there is suspension of the peripheral sensorial function;[1] and, secondly, because, according to all known fact, by direct irritation of these nerves—for example, the retina—there can be produced flashes of light, globes of fire, colored images, etc., but no definite complex forms (men, houses, trees, etc.); in the ear a humming noise, high or low sounds, but no formed words or tunes. For the latter, something more is needed, namely, the co-operation of the perception, from which alone such forms, retained from former impressions or produced anew, can come. This projection of the perception, by which the corresponding sensorial images enter our mind, this penetration of the internal sensorial function into the perception by which the latter receives the appearance of the sensation, we have learned (§ 18) to consider as the function of the imagination; but while, as a rule, these acts are such that in the field of vision only ideal outlines and forms arise, consequently only weakened faded images are conserved, so here in passing through numerous transitions of strength and vivacity, the perception awakens strong sensorial function, so that only the things imagined are really clear and colored, articulate and melodious. The seat of all these acts, the seat of the imagination, is not the retina nor the ramifications of the auditory nerve; it is within the brain, and doubtless it is the central expansion of the nerves of sense; therefore, in accordance with important observations, we must consider hallucinations as intracerebral phenomena.

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[1] The observations of Esquirol upon this point deserve to be fully communicated. "I once had under my care an old merchant, who, after a very active life, was seized with black cataract in his forty-fourth year. Some years afterwards he became insane; he was very agitated, spoke loudly with persons whom he thought he saw and heard. He saw the most wonderful things, and was often quite enchanted with his visions. There was in Salpêtrière a Jewess, aged thirty-eight, who was blind and a maniac. Nevertheless, she saw the strangest things. She died suddenly. I found on examination of the body *the optic nerves atrophied in their whole course*. Certainly, in this case, transmission of impressions was impossible. It is the same with the deaf who think they hear persons speak. We have at present in Salpêtrière two women absolutely deaf, who have no other false ideas than those of hearing various persons, with whom they dispute night and day; they often become even furious." (Esquirol, 'Maladies Mentales,' vol. i., page 195). More recent cases of hallucinations of sight with atrophy and degeneration of the optic nerve have been published by Johnson ('Med.-Chirurg. Review,' 1836); Romberg, 'Nervenkrankheiten,' 3d edition, p. 138); Bergman (Göttinger 'Naturforscherversammlung,' 1854; 'Psychiatr. Corresp.-bl.,' i., No. 8, Beil); Leubuscher, l. c., p. 32. Calmeil and Foville have also observed such cases. The report of the Vienna Asylum (Wien, 1858, p. 46) contains two cases where, in blindness of one eye through atrophy of the globe, the same hallucinations affected the diseased as the healthy eye.

But this does not exhaust the question; there are many other facts—all specially evident in hallucinations of sight—which indicate that the peripheral expansions of the nerves of sense, when intact, are concerned in sensorial delirium; on the one hand, morbid action in the eye, involving the retina, appears to originate the production of hallucinations (or rather illusions, which in this case, however, cannot be distinctly separated from hallucinations). This is especially seen in cases where, with opacity of the transparent media of the eye, hallucinations of sight exist,[1] and where it would appear that the imagination seizes upon those indistinct, dissolving, cloudy images, which the retina receives as material belonging to it to transform them into imaginary combinations. On the other hand, however, those cases, by no means rare, where hallucinations of sight can be made to disappear by covering the eyes, show that the intact retina can take a certain part in the production of these phenomena; sometimes even where the axes of vision are not parallel, hallucinations are seen double—at all events, there are cases where hallucinations exist only on one side. Michéa mentions such cases; I myself have observed a case where hallucinations of hearing continued during the whole duration of the insanity, and were only of the left side. In the cases communicated by Kieser ('Zeitschrift für Psychiatrie,' x., 1853), of hallucinations of hearing of many years' standing, the majority were of the right side; sometimes opposite phantasms of different senses, such as hallucinations of sight of the right side, with hallucinations of hearing of the left side, are seen.

Cases where the hallucinations of sight ceased on covering the eyes are known in considerable number. A young man saw around him all the personages of the court; he threw himself at the feet of that one whom he considered the king; I allowed the eyes to be bound for two days, and his delirium ceased. When the bandages were taken away it commenced anew. (Esquirol.) Reil ('Rhapsodies') relates, "A young lady who saw apparitions and monsters fell into delirium with convulsions. Her maid, in order to maintain her in the upright position, laid her hand upon the eyes of the patient, who at once called out, 'I am healed!' This was repeated next day by the physician with the same result." (Esquirol.)

"D—, æt. 75, mentally healthy, came home one day terrified by a thousand visions which followed him. Wherever he looked, the objects changed themselves into frightful images; sometimes monstrous spiders which grasped at him in order to suck his blood, sometimes soldiers with halberds, etc. Venesection was performed on the foot; still the hallucinations remained, and he could not sleep. A bandage was laid over the eyes, and they at once ceased, and returned as soon as the bandage was removed until the patient continued its use without interruption for a night and part of a day. He now saw the phantasms only at long intervals, and after a few days they totally disappeared. Since then, the man has remained healthy." ('Bulletin de Thérapeutique,' 1842.) The visions of Nicolai also disappeared on shutting the eyes.[2]

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[1] See the well-known case related by Bonnet (Essai Analytic sur l'Ame,' chap. 23), of a person who had both eyes operated on for cataract, and could only distinguish objects with the right eye. He had the most lively hallucinations of sight without believing in their reality. In the case of a patient whom I saw in Tübingen there was cataract in both eyes, and his insanity was characterized almost entirely by the most manifold hallucinations of sight.

[2] See also 'Leuret,' loc. cit., p. 147.

These cases, which are the opposite of hallucinations in the blind, may be regarded as illusions; whereby, however, our physiological knowledge of them is not much advanced. They may be viewed as a centrally provoked simultaneous hallucination of the retina surface according to a scheme given by the imagination; this view has, indeed, its difficulties, but it is also supported by the fact that surrounding objects are often seen through the phantasms of sight as through a veil.

That it is perceptions which give form and body to the sensorial functions is especially shown by the circumstance that certain observers can voluntarily call forth hallucinations, that is, that definite and lively ideas, previously existing in the state of consciousness, first excited the sensorial functions. An individual who had hallucinations of hearing remarked that he could himself call forth the words which the voices subsequently spoke, and this aided him in recognizing them as deceptions (Holland, 'Chapter on Mental Physiol.,' 2d ed., p. 52). The communications of Sandras are also very remarkable ('Ann. Méd. Psych.,' vii., 1855, p. 542) regarding special hallucinations in a disease where the special thoughts and requirements were heard as voices. The voice answered to mental questions of the patients as a third person, but always replied in the sense of his wishes. Intelligent patients also often tell us that at first they are spoken to ideally, "mentally;" it is not till a later period that the voices really become audible.

Certain observers have questioned the idea of the imagination being the cause of hallucinations, by calling attention to the difference which exists between them and the simple fancies (Leuret, Hagen). This objection fails, inasmuch as we (§ 8) consider the phenomenon of the imagination as being one of the functions of the internal sensorial apparatus, but differing from the others in strength (see Müller, loc. cit., i., 5).

Doubtless there is still a great difference between an hallucination and that internal excitation of the imagination which, for example, the artist has in the conception of his work of art; the hallucinations are considered as externally real—they are in the eye, in the ear. It may be asked, is this difference therefore specific, or is it only an affair of degrees? In the first place, there would be in the hallucination the co-operation of a special act, which is wanting in the so-called excitation of the imagination. I consider the assumption of simple difference in degrees as the correct one. We see from the exact description of their hallucinations, which the insane give us, that they may range from the most faded and shadowy appearances even to the greatest sensuous vivacity, and it is not so very unusual for artistic excitation of the imagination to proceed to sensuous appearances, although they may be light and pale.

I have seen an interesting transformation of that obscure, pale, internal hallucination, which accompanies perception in ordinary states into hallucinations with real objective distinctness, in a patient who was extraordinarily rich in visions, and delighted in them. He often spoke of them, saying that many of his appearances existed only in outline, without color; others as obscure, cloudy images; and others as lively colored images, fully corresponding to actual external objects.

Lélut also (loc. cit.) very correctly calls hallucinations complete transformations of thought into external sensorial impressions; and the anwer is very significant which a melancholic gave to Esquirol, who spoke to him regarding the falseness of his hallucinations of hearing. "During conversation, he said to me, 'Do you think sometimes?' 'Without doubt,' said I. 'Very well; you think quite quietly, and I—I think aloud.'"

An intelligent patient whom I have previously mentioned (a medical student), who had throughout hallucinations of the left side during a violent attack of insanity, had the impression that the voices did not come from the immediate neighborhood; he had estimated them at a distance of several minutes. He also made the remarkable declaration that he could by his belly exercise voluntarily an influence on the hallucinations of hearing. On closer investigation, it was seen that he meant the respiratory function of the abdominal muscles, and that it
means of the respiration that he exercised the influence. On holding
the voices were often changed—appeared to come from a poi
tant. We know that in expiration the cerebro-spinal fl
canal into the cavities of the brain and subarachnoid sp
the numerous venous plexuses of the canal of the spina
subsides during inspiration.

§ 55. The different behavior of an individual in regard to his hallucinations may depend, in part, on slight differences of a certain kind, in the strength and clearness of the false perceptions, compared with objective sensorial impressions. Far more influence, however, is exerted in this respect by the state of the cerebral functions generally, in so far as they permit a greater or less degree of reflection, and by the degree of education and the former views of life of the patient.

Hallucinations are not entirely confined to states of mental disease. It is well known that in dreams—to which we shall again refer—inebriation, vertigo, and analogous states, phantasms of sight are produced. But even exclusive of these states, hallucinations are not uncommon in persons not insane. The well-known case of Nicolai, the fact before quoted from Bonnet, several of the cases mentioned by Patterson, all religious visions, etc., are examples of this. Nothing would be more erroneous than to consider a man to be mentally diseased because he had hallucinations. The most extended experience shows rather that such phenomena occur in the lives of very distinguished and highly intellectual men, of the most different dispositions and various casts of mind, but especially in those of warm and powerful imagination. Tasso, who in presence of Manco carried on a long conversation with his protecting spirit—Goethe's well-known (blue-gray) vision, and his ideal flowers with their curious buds—Sir Walter Scott's apparition, in which his dead friend Byron stood before him in the folds of a curtain—Jean Paul, who saw the head of a little girl looking down from the window[1]—Benvenuto Cellini's vision of the sun—may serve as an example from the life of artists. Spinoza,[2] Pascal,[3] had hallucinations; Van Helmont saw his own soul in the form of a light with a human coutenance; Andral[4] tells that he himself had an hallucination of sight, and Leuret that he has experienced a phantasm of hearing.[5] Indeed, judging from what we have heard and observed on this subject, hallucinations doubtless occur also in men of very average minds, not as *rare*, but as *frequently overlooked* phenomena.[6]

The man who is mentally healthy either views such hallucinations with calmness and consideration, because he recognizes them as originating subjectively (Nicolai and others), or he believes in their reality, either because his reflection does not possess the premises necessary to judge of these phenomena, because superstition, sluggishness of thought, love of the marvellous, obscure and restrict their correct interpretation; or because certain dispositions, passions, and emotions (fear, anger, joy, etc.), suspend reflection and calm consideration; or even because they are borne out by hallucinations of several senses, of sight, of hearing, of cutaneous sensibility, and thus the means of rectifying one of the errors is itself falsified.

Hallucinations alone, even when considered true, are not sufficient to constitute insanity. For this there must also exist a general profound perversion of mind or fully developed insane ideas. In order, however, to consider hallucinations as true, it is necessary that, thanks to them, the whole of the healthy sensorial perceptions be perverted; and therefore, hallucinations, when considered as true, are, of course, a very near step to insanity, and especially where a morbid perversion already exists. In the still moderate commencing stages of insanity the hallucinations fix and root themselves so easily that very often they are then considered as causes of the entire disease. According to our opinion, it is only in rare cases that we can assign to them this position. We believe, rather, that hallucinations must be considered as symptoms of already existing, although perhaps still moderate, irritation of the brain. At all events, however, the fact is correct, that they very often appear in the first period of insanity, and that with the appearance of hallucinations, with the falsifying of the external world, the patient frequently first begins really to become delirious.

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[1] Jean Paul, 'Glimpses into the Dream-world.'

[2] Spinoza, Epistle XXX. to Peter Balling.

[3] Ever after a dangerous fall from the bridge of Neuilly Pascal saw an abyss before him.

[4] 'Special Pathology.'

[5] 'Fragments Psycholog.,' p. 135.

[6] For further examples of hallucinations in healthy persons, see Lähr, 'Irresein,' p. 22.

In mental disease hallucinations are almost invariably considered as realities. Still, in occasional cases, especially at the commencement, the patient admits their morbid nature. Sometimes, indeed, we hear the patients declare that they know very well that it is no ordinary hearing or seeing, it is a mental hearing[1]—some one "composes to him in his head," etc., or he complains bitterly that the malice of strangers, the medicines which he has taken, etc., have caused such wicked appearances, and he expresses in his own peculiar way the idea that he is governed by something in his mind which is opposed and perfectly foreign to his *I*. The most remarkable cases, however, are those in which the patient knows and can give the subjective origin of his hallucinations, and yet considers them as realities. Sometimes they say that the voices proceed from within their head.[2] At other times, and very frequently, it seems to the patient as if the voices proceed from the epigastrium, and as if he were spoken to from there—true, not in the ordinary manner, but in quite a new way.[3] In all such statements much depends on the patient's capability of self-observation and of describing his mental state.

In mental disease hallucinations are generally at first circumstances of great attention, and very harassing and troublesome to the patient. After a time, from habit, they become less engrossing, but they often attain such a degree of independence that they remain isolated after the disease has run its course, and may impede the complete return to mental health; owing to the hallucinations, also, such patients avoid all intercourse with the world, and therefore fall into a state of mental poverty.[4]

We shall here mention a few examples of hallucinations occurring in individuals not insane.

Mr. H— one day was reading Commine's 'History of Burgundy.' Looking towards the window he saw a skull lying on a chair; he thought of calling out to inquire who had put it there, but he first went towards it in order to examine it. As he put out his hand to grasp it it disappeared. He was terrified almost to fainting. Fourteen days afterwards he again saw in a lecture-room in the College at Edinburgh a skull lying on the desk, and said to his neighbor, "What will the

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[1] Also Shakespeare makes Hamlet reply to Horatio's question where he saw the ghost, 'In my mind's eye, Horatio.'

[2] "C'est un travail qui se fait dans ma tête," Leuret, loc. cit., p. 162. I too have seen such a case. The patient heard several men speaking together in his head; he sometimes also thought that a whole tableful of persons sat at meat somewhere in the neighborhood of his cardiac region.

[3] Leuret, loc. cit., p. 177. In another case (Lafargue, 'Gaz. Méd.,' 1841, p. 713) the hallucinations of hearing came from the neighborhood of [illegible]

[4] See Neumann, 'Psychiatrie,' p. 119.

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professor do with a skull to-day?" Another time Mr. H— was present at the post-mortem examination of a friend. Three months after, when going to bed, he found an invitation to the funeral of the mother of his friend lying on the table. Scarcely had he put out the light when he felt himself seized by the arm below the shoulder, and it pressed strongly against his side. He sought to free himself, and cried, "Let go my arm;" he then heard distinctly a voice, "Be not afraid." He immediately answered, "Allow me to strike a light." The arm was then set free. H— rose, but felt violent vertigo and great weakness. When he had lighted a lamp he saw the countenance of his friend at the door, but it was indistinct, as if a veil were over it. As Mr. H— approached, the figure withdrew; he followed it down the steps to the outer door, where he fell in a fainting fit. He was afterwards seized with violent pain over the eyebrows, fever, and sleeplessness.

A Southerner in the prime of life and in perfect health paid a visit one day to a neighbor. As he was entering the door there passed before him the figure of a woman clothed in white, and immediately a second, then a third. He stretched out his hand to seize the last, and it disappeared. Shortly after, the man was walking through a park in which he saw several asses grazing; he wished to pat one of them on the back, and was much surprised when he found that he could feel nothing; they still remained before his eyes, and he several times in vain repeated the attempt to touch them.

The following case affords a striking example of numerous hallucinations and illusions in a lunatic, and shows how false ideas originate from them (Bergmann, "Remarks of a Person, who had been Insane, on his Morbid Mental State," Friedrich's 'Archiv für Psychologie,' 1834, i., p. 15).

"Once there was a storm, but such a storm as I have never seen before nor since. The clouds appeared to me to be waves of the sea elevated into the air, where they fought with each other, while an enemy's fleet commenced a mortal combat with the inhabitants; this was the decisive moment for the salvation of Holland, which appeared to me to be already completely lost. I heard no thunder, saw no lightning, but saw the flashes of cannon and heard their loud reports rapidly succeeding each other. Afterwards, on emptying my linen and clothes out of my box, I saw an extraordinary quantity, and also a table-cover which had been left behind at C—. As, on another day, many things were wanting which I believed I had in my hands, I thought they must have been stolen. One evening I lay in bed, following with my eyes the maid servant, whom I supposed to be a ghost; then the tallow of the candle began to run very fast; I saw the tallow, however, run, not from the candle, but from a hole in the wall, and, indeed, in such quantity as to resemble a constant stream. I then declared, with a scream, that I would be suffocated. Hereupon I fell into the delusion that the air was poisoned, and from that moment I constantly felt a sweetish disagreeable odor, which I tasted in all food, and formed the opinion that the beef brought to me was human flesh. The buildings which I could see from my room appeared to be a small clay pipe, which evidently projected above out of the chimney, and therefore engendered in me the frightful idea that this pipe was the only place by which air could enter. Therefore all who entered were supposed by me to be doomed to suffocation."

§ 56. In the consideration of the more immediate circumstances under which hallucinations appear, the following causes are especially to be kept in view.

(1) Local disease of an organ of sense may become the source of sensorial delirium; therefore it is always necessary minutely to examine the patient in this respect.

(2) All states of deep exhaustion, whether of mind or of body, appear to favor the development of hallucinations. As, in former times, the strong asceticism from religious motives was a cause of numerous hallucinations, so at the present time we very frequently see the sensorial delirium coming on after inanition, prolonged fasting, or other exhausting cause, great mental fatigue, etc. This is particularly favored by one-sided mental concentration, by superstitious ideas when fervently maintained (Benvenuto Cellini, many devils and religious visions).

(3) The morbid emotional states from which insanity so frequently

originates evoke hallucinations and illusions in the same manner as the analogous states in health, fear, fright, etc., obscure the sensorial perception and awaken new and false sensorial images.

(4) Outward calm and stillness favor hallucinations, and the production of hallucinations between sleeping and waking is a circumstance of special importance. Their appearance under such circumstances in health is well known, and, in particular, J. Müller's description of these events from personal experience is frequently referred to by physiologists.[1] Observation shows that also in the mentally diseased they very often originate during sleep, and especially that their first commencement often dates from the time of sleep.[2] If they have lasted for a considerable time under these circumstances in the commencing periods of insanity, they often become persistent, appearing also when the patient is fully awake, and exciting false ideas. In certain rare cases, however, an attack of mania has been seen, even on the first day, to succeed hallucinations appearing between sleeping and waking. As, however, even the simple closing of the eyes occasionally suffices to call forth hallucinations in those who are disposed to them (Goethe and J. Müller say this of themselves[3]), so it has been found that also in the insane simple closing of the eyelids causes hallucinations to appear (Baillarger, loc. cit.). Those cases spoken of in § 53, where the phantasms of sight disappeared on closing the eyes, again remind us of the great variety which exists in the complex phenomena of the hallucinations.

The cases are by no means rare where at the commencement of the insanity the patients made light of, or resisted, the rising and as yet fleeting insane ideas; when they turned them over in their mind, and perhaps affirmed or perhaps rejected them. Some night, when the light is put out, when in the still of night all is externally calm to the ear, the first hallucinations, the voices, appear which confirm the insane ideas, and these thereby receive the force of sensorial conviction.

(5) Certain poisons and substances used in medicine can very effectually call forth hallucinations, especially the preparations of hemp, belladonna, stramonium, etc.

Although these are instructive, as they show that phenomena can in part be called forth at will and be made subjects of experiment, yet they have no special relation to the hallucinations of the insane, and it is sufficient merely to have mentioned them.

§ 57. The forms of the various hallucinations depend, as a rule, upon the present disposition of mind and direction of the thoughts.[4] This also, to a great extent, decides whether they be gay or sad; and sensorial delirium is rarely altogether independent in its nature. The melancholic frequently hears language of reproach or menace, or voices which call on him to perform some atrocious act; in mania, the hallucinations sanction the excited state of mind. In short, the ruling emotion (fear, jealousy, joy, etc.) determines the form of the phantasms. This circumstance is important in a prognostic point of view. Observation shows that hallucinations depending in this way on a certain morbid emotional state, can again disappear on removal of that state; while independent hallucinations—not connected with emotional states—seldom admit of real cure, and generally enter as essential elements into the state of chronic mania.

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[1] See Müller, 'Phantastische Gesichtserscheinungen;' Blumröder, 'Ueber Einschlafen;' Traum; Schlaf, in Friedrich's 'Magazin,' 1830, iii., p. 87.

[2] Baillarger, 'Archives Génér.,' 1842, p. 354.

[3] Müller, loc. cit., p. 21–27.

[4] Shakespeare makes Macbeth say, when he would seize the dagger—

"There's no such thing;
It is the bloody business which informs
Thus to mine eyes."

In states of great weakness, after long pain, before death, etc., joyous brilliant hallucinations are often observed. Various other organic conditions—irritation of the genital organs, want of food, etc.—determine in other ways the content of the sensorial delirium which now presents adequate images, voices, etc.

The remarkable similarity which exists between certain hallucinations produced by certain similar causes in well known. Thus, appearances of animals, mice, rats, birds, etc., are very common in delirium tremens. We might be inclined to consider such as phantastic transformations of *muscæ volitantes*, were it not that, according to our observation, large animals—sometimes in great herds—are also frequently seen; horses, dogs, "a million of cattle," etc. The illusions, too, which result from taking stramonium, belladonna, and especially Indian hemp, are somewhat specific.

Hallucinations of a religious kind are very common. The thinker recognizes the religious element of his being in the images presented by his imagination; and this, the highest sentiment of the human mind, he takes pleasure in confirming by self-drawn images. In the mentally diseased, voices from heaven, sometimes demanding human sacrifice, sometimes denouncing divine messages to the poor monomaniac, are very frequent. Their contents vary according to the degree of education; and much depends on whether the individual was formerly most engrossed with the Apocalypse, with the Urania of Tiedge, with Byron's angels, or with modern *mediums*. In general, a belief in the reality of such morbid visions is not a characteristic of this age; yet, even in our day (1816), a monomaniac was recognized as inspired, not only by the masses, but was even considered by an archbishop, and by a minister of police, as an ambassador from God, and as such was consulted by a king (Louis XVIII.) on matters of state.

See the history of the peasant Martin, by Leuret (loc. cit., p. 171). While engaged in manuring his field, a figure appeared before him, and summoned him to warn the king of threatened danger to his person, and conspiracy against the state. After the affair had created a great excitement in Paris, Pinel declared that Martin was suffering under intermittent mania with hallucinations; he was therefore taken to Charenton; but there also he found disciples, and even amongst the physicians!

In the following paragraphs, further examples of hallucinations and illusions in the insane are given according to their idiosyncrasies.[1]

§ 58. *Hallucinations of sight.*—According to Gratiolet, there may be distinguished the following leading varieties in hallucinations of sight:—(1) Such as appear in darkness by night, on shutting the eyes, or in the blind: they are generally bright, even fiery, but somewhat pale; the forms are very frequently those of birds, hideous faces, etc., and they have a tendency to move to and fro. (2) Those seen in dim light or in the twilight are frequently white figures which appear to take a position in the room at an appreciable distance, and do not move to and fro. (3) Those seen by daylight; they appear generally as perfect realities. This, however, I cannot corroborate: from many descriptions of hallucinations, I assume that they are also frequently indistinct and shadow-like.

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[1] See also the writings of Esquirol, Hagen, Leuret, Sinogowitz.

Very often the patients see masses of fire and of light; and, according to circumstances, according to the direction already given to the thoughts, these appearances are variously interpreted. One believes that he is in heaven, and sees the majesty of God in all its glory; another believes himself encompassed by the flames of hell. A young woman at the period of menstruation, saw (really) her parental home on fire; immediately she became furious, would throw herself into the fire, knew no person, and believed that she herself was on fire. Brought into the hospital, she filled the air with the perpetual cries of "Fire!" She thought that she suffered the pain of the flames, and that her parents were abandoned to them. She was constantly a prey to delirium and fury, and cried perpetually, "See how everything burns! all the engines in the town cannot put out the fire—it must destroy us all!" She died in four weeks, and "Fire! fire!" where her last words.[1]

Another had a great number of visions. The Son of God frequently appeared to him: he sees him borne upon clouds, surrounded by angels, and holding a cross in his hand. He entrusts to him his commands, but not by words, but by signs, which appear in the air. The patient delineates the forms which he sees in the air; they are sometimes geometrical figures, sometimes those of animals or of household materials, flowers or musical instruments; sometimes they are curious figures to which nothing is similar, etc. (Esquirol.)

Another writes, "I have seen God the Father several times. He had the graciousness to speak to me; He entered into several hells, where He slew several monstrous beasts, and had them buried in holes, from which one, I believe, gave false oracles. I several times saw John the Baptist in heaven, in a chariot with seven horses," etc.[2]

A gentleman who had hypochondriacal melancholia continually went about striking the furniture of the room with his cane, and the faster he went the more he struck. I afterwards learned that he mistook the shadows of the furniture on the floor, and his own shadow, for rats. Therefore, the faster he went, the more persuaded was he that the rats were increasing in number. (Ibid., p. 129.)

The seat of hallucinations of sight must be the internal expansion of the optic nerves. Anatomical observations have yet to be made on this point; in dissections, the thalamal surfaces, the corpora quadrigemina and their neighborhood, also the centrum ovale, should be carefully examined. In a case reported by Bright ('Guy's Hospital Reports,' 1837) of a patient, who, after two apoplectic attacks, had hallucinations of sight, there was found an inflamed spot, half an inch in size, in the corpus geniculatum, penetrating to the surface of the brain.

§ 59. *Hallucinations of hearing.*—Hallucinations of hearing are not quite so common as those of sight. They are most general in melancholia and chronic mania, in which they are occasionally the cause of an attack of mania. They are generally indications of a more serious, less curable, affection of the brain, and are often latent until certain false ideas have become fully fixed. They have been with special frequency observed in connection with the diseases of the abdomen and genital organs. The anatomical signification of this fact would, if it were known, perhaps advance our knowledge on this point (connection with the cerebellum). The voices appear to come sometimes from a distance, sometimes from the neighborhood; sometimes from the earth, the walls, the furniture, or even from the patient's own body. Sometimes they continue so persistently that the patients fall into a state of desperation. Those who have hallucinations of hearing have also more nonsensical ideas than generally result from the other phantasms, and they often exhibit the most peculiar and grotesque demeanor. They reply to the voices by friendly or threatening gestures or words. They often become suddenly quiet and attentive in order to listen, and then commit the oddest and most dangerous acts which the voices have recommended.

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[1] Sinogowitz, loc. cit., p. 258.

[2] Esquirol, loc. cit., p. 100–102. See also a patient's description of his visions communicated by Hirsch in Nasse's 'Zeitschrift für Anthropol.,' 1852, Heft 1.

A young man had not spoken a word for six months after an attack of furious mania, nor performed any voluntary act. One day he seized a full bottle and threw it at the head of the waiter. He remained immovable and quiet, and after several months he recovered. I asked him why he had thrown the bottle. "Because I," said he, "heard a voice which said to me, 'Kill somebody, and you shall be delivered;' I did not kill the man; therefore, my lot could not be altered, and I remained quiet and immovable. Moreover, the same voice repeated without ceasing, 'Move and you will be dead.' This warning was the cause of my immobility." (Esquirol.) See also the well-known case of the French prefect, by the same observer.

A patient (communication by Kieser, 'Zeitschrift für Psychiatrie,' x., 1853, p. 436) describes his hallucinations and illusions of hearing in the following terms: —"It is as surprising as frightful, and to me degrading, what acoustic practice and experiments—and without reason—have been made with my ear and my body for nearly twenty years! I had the shocking conviction that not only without my will, but even without my knowledge, sounds and articulate words of the most various kinds proceeded from my ears as the disgraceful band wished it. And such sounds and words! During six months of the year 1815, they consisted almost entirely of invectives against me and those belonging to me; one and the same word often resounded for two or three hours without interruption! Then there would often be heard a long-continued discourse regarding me, generally containing abuse; the voices of persons well known to me were often imitated. These discourses rarely contained anything that was true, more frequently they contained the blackest lies and calumnies concerning myself and others. Frequently it would be made to appear that it was I who said all that. These continuous prolonged sounds were often heard quite near to me; frequently, however, they seemed to be produced half or even a whole mile off. They are likewise thrown and violently ejected from my body: the greatest noise and clatter is heard around me, especially if I enter a house or go into a village or town, therefore, I have for several years lived almost like a hermit. At the same time, my ears almost constantly resound, and often so strongly that the noise may be heard at a considerable distance. Every single tree when I approach becomes—even in calm weather—a source of murmurs and sounds resembling words and speaking; the carts and carriages crack and sound in an extraordinary manner, and relate anecdotes; the horses' hoofs do the same; the swine grunt names and stories; the dogs bark abuse and reproaches, the cocks and hens, and even the geese and turkeys, cackle names, words, and sentences. The smith causes his hammer and bellows to sound words, phrases, and often entire anecdotes, and thinks he does this with my consent and will. All who come near me tell with their feet, without their will, the most curious, droll, and nonsensical things which happen to me and to those around me. This is especially the case in going upstairs. Even the pen with which I write produces articulate tones, words, and phrases."

At other times the patients hear celestial harmony, music of the spheres, concerts; frequently accusations, loose speech, and indecent language. Of this female patients often bitterly complain. In *illusions* of hearing, sounds present are transformed in the sense of the ruling disposition or false idea: for example, a noise upon the steps will be ascribed to officers of the law coming to imprison the patient, etc.[1]

There is a particular kind of hallucination of hearing to which it is difficult to give a name, viz., those internal voices without sound, mere lively ideas, which appear to the patient as speaking and answering. They are described by certain of the insane as *spiritual*, as "the voice of the soul," etc. (*mental hallucination* of Baillarger). There are all possible varieties of them, even to the loudest cry of voices.

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[1] In Schiller's 'Erwartung,' simple hallucinations of hearing in health are so described that they may be taken as examples.

The point of origin of these morbid phenomena of hearing must be referred, in part, to the fourth ventricle and its neighborhood; but the pathological anatomical grounds for such an hypothesis are scanty.[1] In certain cases, phantasms of hearing could be stopped by stuffing the external auditory meatus. At other times they have been found in the deaf.

§ 60. *Sense of smell.*—Hallucinations of smell are not so common as of the senses we have just considered: they appear also to belong chiefly to the early stages of insanity. Schlager[2] found, amongst 600 patients, 27 cases in which bad smells were complained of, which sometimes caused ideas of poisoning, with refusal of food, owing to the idea that the intestines were putrefying. In the great majority of these cases, however, the bad smells were objective, excited from without, and not true hallucinations; only about five cases could be considered as such. In almost every case it is disagreeable odors which the patients perceive: the smell of sulphur, of carbonic oxide, of carrion, etc. The idea of living in a poisoned atmosphere, surrounded by dead bodies, etc., is a frequent result of these hallucinations. Leuret (loc. cit., p. 198) relates the case of a woman who ascribed the bad smell which she felt to the effluvia arising from murdered bodies in the vaults of Salpêtrière: smells presented externally were well distinguished, and she was quite normally affected by them. We have seen a parallel case in a young man.

Sinogowitz narrates the following interesting example of an insanity which depended to a great extent on illusions of smell.

K—, formerly lively and sociable, became gradually, for about a year, meditative, taciturn, irritable, and solitary; he often used secret remedies, and always showed distrust of those by whom he was surrounded. At last he openly declared, "I feel myself very unwell; I have within me a putrefying mass which destroys my inwards; my neighbors therefore treat me with mockery and contempt, and avoid coming near me because I emit a pestilential odor." He led a solitary and sorrowful life; his delirium became always more confirmed, and he accounted for his disease by infection from glanders. He removed to a strange town, and took a walk to see whether those whom he met would also avoid him on account of the bad smell. As, by chance, a passer-by put his pocket-handkerchief to his nose, and at the same time looked at him, K— violently attacked him, called him a hard-hearted mocker, an uncharitable despiser of men, and gave him a box on the ear. He was then recognized to be insane; it was found that he was insensible to external odors; he declared that he felt only his own smell, which resembled that of horse's urine, and complained also of a corresponding taste in his mouth. The patient then gave himself to onanism; he soon began to complain of constant dull pain in the head, to grow lean, and at last fell into dementia.

In a patient who had strong hallucinations of smell, a fungus of the dura mater as large as a hazel-nut was found in the cribriform process, and surrounded by the olfactory nerves ('Vienna Asylum Report,' 1858, p. 266).

In another patient, who had been constantly followed for more than six months by a smell of dead bodies, there was found an abscess of the corpus callosum (Cabanis, quoted by Morel, 'Traité des Maladies mentales,' p. 331). The island of Reil might, according to certain facts in the minute anatomy of the brain, be considered an olfactory centre.

Hallucinations of taste.—In this sense real hallucinations cannot be distinguished from illusions, false interpretation of real objective impressions (from furred tongue, state of the saliva, etc.). Here, too, there are commonly disagreeable sensations of taste of which the patients complain: they say that everything has a bad taste, metallic, sharp, rotten, sandy, earthy, etc.; and found on this the idea of poisoning, hate towards their neighbors, and frequently refusal of food—always so important on account of its speedy and injurious influence on the organism. The cases in which the insane have agreeable sensations of taste—suppose that they eat delicacies—are very rare.

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[1] Foville says that he has found adhesions of the surface of the cerebellum to the membranes. But there appears to be also a prolongation of the auditory nerves into the great hemispheres.

[2] 'Zeitschrift der k. k. Gesellschaft zu Wien,' 1858, 19, 20.

Esquirol mentions such cases, the single case brought forward by Leuret (p. 197) can scarcely be considered an example of this.

§ 61. In the skin, and in the viscera, hallucinations and illusions cannot be distinguished from each other; or rather the phenomena which constitute them, so far as they do not depend on anæsthesia (§ 49), are in every case to be considered as illusions, because the specific anomaly consists in the false interpretation of certain sensations observed in health or in various states of disease. The commencement of these illusions consists in certain painful sensations being merely phantastically compared by the patient to analogous phenomena. Therefore hypochondriacs, at first, say only that *it seems to them* as if serpents crawled in their skin, as if there were frogs in their belly, as if a bird chirped within their chest, or, as we once heard a patient say, a young dog lapped water in their head. But, by prolongation of the sensations, the influence of unfavorable external circumstances, and increasing internal disharmony, owing to which the patient soon begins to consider the matter more earnestly, the comparison, at first imaginary, becomes a fully developed delirium: then, from abnormal cutaneous sensations or morbid muscular action, there originate fixed ideas, in which those sensations are seriously attributed either to internal phantastic causes (spiders, crickets, and other animals in the body, demoniacal possession of certain organs), or to outward influences of a prejudicial kind (magnetism, physical experiments). Thus, the idea of being stabbed or flogged, of the arms being bound or made fast, is seen to originate from certain pains in the skin; and from abnormal abdominal sensations, the idea that the devil, the last judgment, crucifixion,[1] is taking place within the belly of the patient. Any part of the body may become the point of origin of such insane ideas. A young man told me he had felt the devil, rough and bristly, seize him by the neck (globus hystericus?); another, mentioned by Sinogowitz, stuffed his nose at night because venomous worms crawled into it. A woman, spoken of by Bergmann, saw in her breast a circular fiery body turning constantly round.

The *sexual illusions* merit special consideration, as, from normal and abnormal sexual sensations, there is frequently developed in men the idea that they are urged by others to onanism; in women, the idea of pregnancy, of their accouchement always being imminent—of sexual intercourse with some imaginary lover, with the devil, etc.; and as those sensations constitute a frequent source of sexual insanity which may show itself in the form of sentimentality, or of nymphomania.

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[1] A patient of Esquirol's had this delusion. "I can scarcely bear it," he said occasionally: "when will there be lasting peace in the Church?" A patient in Winnenthal cried continuously, for months, "Desist, and let me go!" He sometimes believed that he was tormented by something within his body, sometimes that he was struck with the horns of imaginary oxen.

Hallucinations and illusions of several senses combined are very common, and the literature of this subject (Hagen, Esquirol, Leuret, Bottex) is rich in examples in which simultaneous false perceptions of all the senses formed the most important and most striking phenomena of the insanity. In a practical point of view, it cannot be too much insisted on that these false perceptions of the senses be sufficiently investigated, that they are often results of organic processes which may be allayed, and that attention be paid to these in considering the plan of treatment. In relation to this, we might recommend—a point hitherto quite overlooked in hallucinations of the three superior senses—attention to the state of their accessory nerves, the fifth pair: in several cases, hallucinations of hearing and of sight appeared to us to have been awakened by neuralgic affections of these nerves.

I saw, now many years ago, a remarkable case which began with hallucinations of several senses. A man was returning one moonlight night from a pedestrian excursion by which he was somewhat fatigued. All at once it seemed to him as if he saw a great animal like a dragon rolling itself in a ditch filled with water by the roadside. He became exceedingly afraid, and at the same time felt himself painfully grasped on the right shoulder by the animal; nevertheless, he could, as he said, free himself by running. Immediately after, he fell into a disease which was soon discovered to be a pleural exudation of the right side, filling the whole of that side of the chest. He died in a few months, and I was present at the examination of the body.

SECTION III.—*The Elementary Disorders of Movement.*

§ 62. We observe, in most of the insane, slight inconsiderable disorders of muscular movement; changes in the tone of voice; slowness or excessive rapidity of the contraction of the muscles, etc. It is not rare to see also a certain degree of general tightness and rigidity, or of relaxation of the muscles; the latter principally in states of weakness. Difficulty of movement of the whole body, including the organs of speech, perhaps even statue-like cataleptic rigidity, is proper, in particular, to the so-called ecstatic states (see § 51), in which the external sensorial activity is at the same time more or less suspended (generally with coexisting hallucinations), and the patient is plunged either in inexpressible mystical joy, in ecstasies, or in a state of violent painful emotion. Such muscular rigidity, moderate and of short duration, may be present in the slightest, most curable, forms of insanity, and does not render the prognosis less hopeful; yet, in certain cases, the patients have become demented (Guislain). Of far greater significance are, on the one hand, the local contractions interrupted at times by paralysis, and on the other, the partial or general convulsive states. The persistent automatic *grimacing*, strabismus originating during the disease—immoderate contraction, dilatation, and irregularity of the pupils—painful convulsions of the muscles of the neck—those confused convulsive movements of the extremities which cause the patient often to walk irregularly, or to progress in short leaps—are all phenomena of serious signification, and their continuance usually indicates a transition to the state of incurability. A constant trembling, grinding of the teeth, chorea-like symptoms in adult lunatics, automatic circular movements, walking backwards, are likewise, at least in the majority of cases, symptoms of the development of serious organic disease of the brain: although, in accordance with certain observations of subsequent recovery in similar cases, we must admit the possibility of the production of the phenomena from simple nervous irritation, or from temporary palpable disease. The gravest, and, alas! but too frequent, anomalies of movement in the insane, are, however, the epileptic and general paralytic states, to which we shall, owing to their great importance, devote a special chapter (see the Complications of Insanity.)

In cases of obstinate taciturnity, which sometimes continues for several—certain cases for ten years, and even longer—we must, first of all, discover whether the patient *will* not speak (simple morbid peculiarity) or *cannot* speak (chronic cataleptic states, profound melancholia, stupor, dementia). The strength and tone of the voice correspond in general to the ruling disposition of mind.

In the insane there is sometimes observed a convulsive rolling of the eyeball (nystagmus). This phenomenon appears to belong to the period of transition from the acute into the chronic states, and is therefore of unfavorable prognosis. Modifications in the mobility of the iris are more common. Inequality of the pupils is seen most frequently in paralytic dementia, more seldom in simple cases of mania or melancholia: and here also it is most common in chronic, slowly progressing, and hopeless cases. In certain cases the inequality appears for the first time during convalescence. Great contraction of the pupils in mania is, according to experience, of unfavorable prognosis, and renders probable the commencement of paralytic dementia. In insanity, as in many other affections of the brain and nerves, it cannot in every case be ascertained whether the abnormal state of the pupils depends on convulsion or paralysis; but the latter, from the symptoms, appears generally to be the more probable. See Mérier, 'Gazette des Hôpitaux,' 1852, 19 Août; Seifert, 'Zeitschrift für Psychiatrie,' x., 1853, p. 544; Richarz, ibid., xv., 1858, p. 21.

CHAPTER V.

ON INSANITY IN GENERAL.

SECTION I.—*The Analogies of Insanity.*

§ 63. WHAT may be said on insanity in general, its course, its mode of termination, etc., can only be drawn from the study of its single forms, owing to the extraordinary diversities which they present. Still, our general knowledge of mental diseases is considerably increased by considering their analogy to certain kindred states, especially to dreams and to the delirium of fever.[1]

The simple testimony, so frequently given by those who have recovered, that the whole period of their disease now appears to them as a dream—sometimes a happy, but more frequently a painful and gloomy one; and further, that during insanity, in certain cases, the impression left by their former healthy life was also like a bygone dream—might lead us to the great similarity of insanity to states of dreaming.

It is true that in the insane the principal signs of sleep are absent—the closing of the external senses, the suppression of consciousness of the outer world, and of the influence of the will upon the muscles—all of which we regard as essential to dreaming. But, on the one hand, it is known that we dream the more readily the less profound our sleep is, and that there are states of sleep where an influence similar, indeed almost akin, to a waking state is exerted on the muscles (speaking during sleep, sleeping of the postilion while riding, somnambulism). On the other hand, the whole circle of such sensorial acts as do not originate through external excitation of the senses, and which nevertheless may exert such power (which acts exert such influence in mental diseases), can be considered as related to dreaming in the wider sense. Finally, there are in the insane states of sensation and of motion,—dulness of sensorial impressions, which no longer affect (§ 50) the individual as they formerly did—that weakening of the influence of the will upon the muscles which is manifested in great slowness of movement, and even, at times, in cataleptic persistence of positions enforced (§ 62),—which, in connection with the coexistent obscurity of consciousness, vividly reminds us of what takes place when sleep comes on.

Indeed, the analogy of insanity to dreaming, especially to dreams occurring in the half-waking state, must be admitted. In children, we occasionally see, especially when under slight disease, that they, while sleeping, still speak; for example, they understand the mother, they answer her, they open their eyes and recognize her, but nevertheless they dream on, and in particular they cannot withdraw themselves from uneasy dreamy ideas. Even the intermediate conditions of sleep and waking, which succeed each other in endless gradations, strongly favor the appearance of illusions and hallucinations (§ 56), and which are distinguished by an irregular activity of the imagination and by incoherence of the intelligence. They are preceded by a state of sleepiness, the individual being dull, torpid, and taciturn; the senses become blunt, the impressions of sight fail, sounds appear distant, his consciousness is dull, answers are delayed, he forgets himself and speaks incoherently. These are often observed in the commencement of insanity. In the first place, sensitive and motory reaction towards the external world becomes feeble; and secondly, a world of phantasms and confused ideas appears, in which the patient loses himself. This gradual lulling of the understanding and will, which constitutes healthy sleep, is denied the insane man, owing to the persistent (painful) emotions; and we often observe also, in the commencing period of the disease, in spite of the apparent sleepy tiredness, actual sleeplessness.

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[1] The analogy of insanity to the emotional states of health has already been spoken of; the similarity of many states of mental disease to intoxication will be afterwards mentioned (under Mania and General Paralysis).

Bichat says, "Le sommeil général est l'ensemble des sommeils particuliers;" indeed, each sense and each phase of mental life may be at the same time awake in different degrees, the one more than the other. In somnambulists certain faculties are very active, and dreams set in action may, if of short duration, be considered as somnambulism; if of longer continuance, as mental disorder.

§ 64. The dream, like insanity, receives its essential color, its certain fundamental tone, from the governing disposition; which may be determined as well by the mental occurrences of waking life, as by changes of the organic states during sleep; in which, especially, all congestive states, and all morbid impressions from the digestive organs, and abdominal organs in general, have a very great influence. The ruling sentiments of pleasure and pain call for their corresponding images, in which objects without form in themselves, become sensuous clothed forms, the reality of the actual impression is delusive, and what enters from without, through the senses, meets in the dreamer, as in the insane man, a centre, preoccupied and filled with the given disposition, and becomes perverted and construed in the sense of the ruling sentiments and ideas. On the other hand, however, the same twofoldness of the personality and the same emotions ensue when groups of ideas and sentiments of unaccustomed hostile intent stand opposed to the *I*, and the dream, like insanity, is busy to transfer to the external world and to dramatize subjective images (hallucinations) of all the senses.

In dreaming, this occurs particularly with bodily sensations, in the elaboration of which there is great exaggeration and they have a powerful effect upon the imagination. A confined position in bed, pressure on the arm or the breast, becomes cause of sensations of being put in chains, of danger, of precipices, of threatened execution, etc.; a draught of air coming on us excites ideas of being at sea, and the other circumstances connected with it; warmth of the feet causes us to dream of fatiguing marches, or of climbing a burning mountain; a slight prick evokes ideas of drawn swords; bodily feelings of anxiety from oppressed respiration may excite the idea of a monster setting on us, or dramatic representations of great crimes being committed, against all of which, however, our natural *I*, to which no such thoughts belong, strongly protests. All these closely resemble the waking dreams of the melancholic, and in both conditions the individual cannot recognize these false representations as such for want of reflection, owing to repression of the *I* or even partial overthrow of it, and because rectification through the senses is impossible, in the one case through their dulness, and in the other through their false images (hallucinations). Heerman narrates that when asleep, having colic pains, he dreamed that his belly was opened and that a preparation was made of his sympathetic nerve. We have brought forward examples (§ 61) of similar interpretations of abnormal sensations by the insane when awake.

The dreamer, like the insane, accepts all, even the most adventurous and foolish, representations as possibilities without particular astonishment, and the veriest absurdity becomes the most unquestionable truth, if the masses of perceptions which can rectify it remain dormant. An individual may dream of having solved a scientific problem, and is filled with joy at his fortunate success; he awakes and discovers that it is an ordinary false thought. Thus, there are insane persons who suddenly discover perpetual motion, or a mechanical idea which must change the whole surface of the earth, and similar things: they are filled with ecstasy at such discoveries; what they demonstrate, however, is to us folly, and they, after removery, cannot understand why they could not at once see through such great errors.

§ 65. Agreeable, ravishing, heavenly dreams are very rare in health: they are most frequent in states of deep bodily or mental exhaustion, and we often observe at such times that the ideas suppressed during waking come forth strongly in dreams. To the individual who is distressed by bodily and mental troubles, the dream realizes what reality has refused—happiness and fortune. The starving Trenck, during his imprisonment, often dreamed of rich repasts; the beggar dreams that he is wealthy, the person who has lost by death some dear friend fondly dreams of the most ultimate and lasting reunion. So also in mental disease, from the dark background of morbid painful emotion, by sinking into a still deeper state of dreaming, the repressed contending ideas and sentiments—bright ideas of fortune, greatness, eminence, riches, etc., stand out—and, as soon as this happens, through a change in the state of the brain, but without recovery, the pressure of the painful sensations is removed, the former mental misery changes voluntarily to the mirth of the maniac. Thus we see clearly how supposed possession and imaginary realization of good things and wishes, the denial or destruction of which furnished a moral cause of the disease, constitute commonly the chief subjects of the delirium of insanity; for example, she who has lost a darling child raves of a mother's joy, he who has suffered loss of fortune imagines himself rich, the disappointed maiden is happy in the thought that she is tenderly loved by a faithful lover.

A number of other phenomena of dreaming present an evident analogy to insanity. Thus, sometimes in insanity, as in dreams, all idea of time is wanting; minutes seem hours, as in a dream we live years in a quarter of an hour, and events which would take months to occur in reality, appear to the insane man to pass in the shortest space of time. In both states, muscular sensations—interpreted as flying, being precipitated, etc.—and illusions play a most important part, and the latter serve, in particular, to express certain situations evoked by a governing fundamental disposition and corresponding to it, while the masses of perceptions of the *I*, which could bring order into this chaos, are partly obliterated or destroyed, partly lie in painful opposition to the new contents of the mental life, or are violently carried by this in certain definite directions.

Those rarer cases are very interesting where intermitting insanity takes the place of normal sleep, and thereby seems to stand midway between dreaming and somnambulism. Guislain ('Die Phrenopathieen,' translated by Wunderlich, p. 80) relates such a case, and considers generally that there exists a certain analogy between mental disease and states of dreaming. Those cases also are of the same nature in which a state of waking dream suddenly interrupts the ordinary state of waking, which after its cessation again assumes its ordinary course. A lady was subject to such paroxysms: suddenly in the midst of a conversation she would stop and commence to speak of something else; after a certain time, she would again resume the conversation at the sentence and word at which she had broken off, and be quite unconscious of the interruption. A lady from New York suddenly became delirious while working some intricate embroidery; she remained ill for seven years, and as suddenly recovered. She immediately resumed her work with the same composure as if she had only been an hour absent from it (Prichard, 'Annal. Medicopsychol.,' i., 1843, p. 336).

When the seeds of mental disease are actually present, agitating dreams may hasten its outbreak; sometimes the subject of the future delirium is clearly exhibited in them. Results of the existing cerebral irritation, they act destructively on the emotions, and their after-effects continue dominant during the waking state.

§ 66. Many states of insanity specially resemble the so-called magnetic sleep which is observed in chronic nervous diseases, particularly in states of serious constitutional disturbance. The extraordinary feeling of well-being in its higher grades, those indescribable sensations which seem to belong to another sphere, are here exhibited in the great satisfaction and contentment seen in many maniacal states, and in those feelings of exquisite happiness experienced by many of the insane which really cannot be described, and for which they themselves choose the image of the divine. The new expressions which certain somnambulists suppose to be the common language of the region of the spirits—that tendency to busy themselves mystically with the construction of the universe, and, above all, with the highest problems of human thought, and that affectation of fine language in those without education, are all to be found, alike combined, in many chronic maniacs; and in certain cases the greater freedom of the organs of movement in the latter state constitutes the chief distinction.

It appears also that magnetic exaltation, like maniacal agitation, is frequently developed from anterior states of pain, and that there then results antagonistic dominion, on the one hand, of the bodily and mental affection during waking, and on the other, according to our observation, of obscure states of dreaming accompanied by nightmare, which constitute the first period of the magnetic state. The further confirmation of the latter conditions would be very important for the analogy in the course of both series of morbid states. In the somnambulists, also, their knowledge—according to all experience so very worthless—is generally communicated through the medium of hallucinations (of sight and hearing). Most of the analogies mentioned in the preceding paragraphs with the other states of dreaming serve also for the magnetic states; and, particularly, reminiscences of magnetic dreams are not so rare as is generally supposed.

Although the different states of insanity do not in the same degree possess the character of dreams—although this attaches most to certain primary forms, especially to melancholia with stupor, in which, indeed, intercourse with the external word is extremely limited, and impressions are phantastically transformed, and also to certain states of mania; although, on the contrary, other particularly secondary, forms, such as partial dementia, present all the signs of complete waking, in which at times the patient renounces his whole former life or has quite forgotten it—where he lives, externally in the false world of his hallucinations, and internally in the reveries of his false ideas:—whether such waking, indeed, is not more analogous to certain magnetic states which partially conceal our day-life, than to that waking which we know by experience to be the healthy state.

The analogy of mental disease to dreams has in recent times been treated of by several authors, especially by Moreau, 'Annal. Méd. Psych.,' 1855, p. 11, ff.; ibid., p. 361; Maury, ibid., 1853, v., p. 404; Holland, 'Chapters on Mental Physiology,' 2d edition.

§ 67. As, however, insanity presents a similarity sometimes superficial, sometimes profound, sometimes qualitative to the various states of dreaming; so the psychical process by means of which the individual, when the cerebral disease is removed, returns to healthy life, presents various modifications. Sometimes recovery resembles simple waking; when the individual astonished seeks, as it were, to know himself, the masses of ideas belonging to the disease soon disappear, and the old *I* returns uninjured and unimpaired to its former place. At other times, the already united connections loose themselves with greater difficulty, and as the old *I* is but slowly strengthened, recovery consists again of a painful struggle, in which the individual awakened frequently requires the instruction and advice of another will to strengthen his. Not unfrequently, even then all the traces of the morbid state do not disappear, and the patient for a long time retains, as vestiges of the past, certain ties, oddities, aberrations, and perversions. From this point it may frequently be observed that the patient undergoes a decided change of character.

It is inadmissible to refer those processes to the moral sphere, to which they as little belong as the process which characterizes the commencement of the disease; but it is certain that, for a convalescent who has been formerly unsteady, proper moral training is necessary, and that very often the physician may produce a new effect on the patient by such instruction as is generally given to the young.

Those cases are very interesting where, shortly before death, the mental health completely returns or becomes decidedly improved. This occurs most frequently in mania,[1] seldom in melancholia, and almost never in the secondary forms—chronic mania and dementia. In those cases where serious anatomical changes have already taken place in the brain, and the morbid perceptions have completely pervaded and destroyed the *I*, the fundamental requisites of return to normal thought seem to be wanting. The length of time required for this cannot be estimated.

Brierre de Boismont[2] mentions the case of a gardener who, in his twenty-second year, after receiving a violent fright from a person dressed like a bear, at a masked ball, became insane, and for fifty-two years did not speak a word, but appeared, with growls and moving to-and-fro of the body, to imitate that species of animal. Some weeks before his death, when diarrhœa and œdema had set in, he began to speak; his intelligence showed itself to be, indeed, very limited, but the connection of his thoughts was correct and orderly.

In cases where the cerebral symptoms originate secondarily, and are maintained by disease in other organs, and still depend on simple nervous irritation or on slight hyperæmia, such mental improvement before death may even be expected; this is easily explained, and is in many ways analogous to the cessation of certain pains before death. Certain exceedingly rare cases have also been seen where even dements (paralytic) some time before death recovered a great part of their lost recollections, and exhibited a certain correctness of judgment. Such, it is true, is still far from being a state of reason. Hoffmann correctly remarks, that this "rationality" which reappears shortly before death is in most cases merely a re-establishing of an equilibrium between diminished powers, the past, the future, and the most important relations of life still remaining in obscurity.

Such mental improvement before death is not always coincident with marked aggravation of the bodily symptoms; cases have occurred where the patients were considered cured, and then rapidly carried off by sudden death. It is very rare to see insanity assume a more serious form shortly before death, still, in mania, an access of fury sometimes comes on which does not cease till death occurs.

§ 68. The acute delirium of fever, from which insanity is in no way specifically distinct, likewise consists of active dreams during waking or half-waking. Although generally the delirium of fever is more a state of simple incoherence than of mental aberration, still we observe frequently that in these dreams the various hallucinations and false ideas are only expressions of a governing fundamental disposition, sometimes fixed, sometimes changing, and are thus connected through the unity of the ruling sentiments; and also that the special subject of each of the imaginary images and false ideas is generally decided by accidental circumstances (psychical wants, the paper on the wall, old recollections). In the delirium of fever also, we can often arrive at the same fundamental psychical differences according to which the division of mental diseases into single principal forms is based. Thus there is a melancholia, a mania, partial dementia (restricted to single insane ideas without much emotion), and dementia in febrile delirium. There are also certain predisposing constitutional causes of slight delirium as of mental disease, such as previous weakness, hereditary influences, etc.

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[1] In the Quaker Asylum at York, in 33 cases of death from mania this occurred 8 times, and in 45 from melancholia 8 times (Julius, 'Contributions to British Mental Medicine,' p. 255). The three examples brought forward by Parchappe were also cases of mania.

[2] 'Gazette des Hôpitaux,' 1844, No. 54.

Although, in general, acute delirium differs essentially from insanity in its shorter duration, the absence of premonitory symptoms, and its sudden outbreak, its symptomatic character, the presence a high degree of fever—although, in acute delirium, owing to its short duration, that psychologically organized transformation of the personality observed in so many mental diseases is never present, still, both kinds of disorders, as regards their nature—nervous irritation, hyperæmia or inflammation of the brain, probably of its surfaces—and causes—sympathetic irritation of other organs, emotions, anæmic states, abuse of alcohol, etc.—are identical; there are manias which are transitory and of short duration, there is a kind of insanity which is accompanied by fever, and not unfrequently, the cerebral affection has, even in mental disease, a symptomatic signification. So we may correctly designate the psychical disturbance in insanity as a generally chronic delirium, and we have no grounds for agreeing with Georget and Burrows in their views as to the specific difference between the delirium of fever and mental disease.

See Georget, 'Ueber die Verrücktheit,' translated by Heinroth, Leipzig, 1821, p. 127; Burrows, 'Commentaries on Insanity,' London, 1828; Jacobi, 'Beobachtungen über die mit Irresein verbundenen Krankheiten;' Elberfeld, 1830; Moreau, 'Annal. Méd. Psychol.,' vii., 1855, p. 20, and Bousquet's review of Moreau's work, ibid., p. 448; Fée, 'Bull. de l'Acad. Imp. de Méd.,' vol. xx., 1855, p. 1213.

SECTION II.—*The General Diagnosis of Mental Disease.*

§ 69. The question whether an individual be insane may be put in two different senses. It may be asked whether in him the general mental disturbance is the result of *disease?* or it may be demanded—in evidently present and established morbid psychical disturbance—whether this belongs to one of those cerebral affections which are usually called "mental diseases," or whether the disorder does not perhaps depend on some other disease, as meningitis, typhus, intoxication, etc.? The latter question is purely medical, the former is more frequently medico-legal.

When the mental faculties in a man are in a state of morbid disturbance, this may in some cases be easily and by any layman distinguished; in many other cases the decision on this point is very difficult, and requires prolonged observation and intelligent acquaintance with the science of mental disease. I have had submitted to me opinions of special medical psychologists, who, after six months' observation of a patient in their asylum, could not come to a decision whether they should declare him insane or not; and older and recent cases have been published (Reiner Stockhausen) on which the opinions based upon long observation, instituted *ad hoc*, of eminent psychologists have been quite contradictory: the reading of these is very instructive. We see, likewise, how very inadmissible, in many cases, is the demand frequently made on the medical jurist (by the jury) that he, after one or two short examinations of the prisoner, should give his opinion, when, sometimes, the time allowed is insufficient to enable him to acquire a full knowledge of the subject of investigation.

The difficulty of this question depends on the fact that perversities of feeling and effort, false ideas and opinions, and even delusions of the senses—all, as we have seen, essential elements of mental diseases—are also produced in other than morbid states, and can exist together with wholly undisturbed mental health; further, that when such psychical anomalies do not at all exist, their prominent symptoms may be designedly imitated; or, when they do exist, these may be concealed; finally, on the fact that there are many cases where the disease is partially developed, and with but incompletely marked signs, which constitute the chief *criteria* from which an individual is to be pronounced insane.

§ 70. (1) The chief point is invariably this—that, in the great majority of cases, there appears with the mental disease a change in the mental disposition of the patient in his sentiments, desires, habits, conduct, and opinions. He is no more the same; his former *I* becomes changed, he becomes estranged to himself (alienated) (see § 5). In order to prove that this change has taken place in the patient, it is necessary that his former habits and character should be made known to the physician, even though solely from the communication of others. The contrast is then often very striking—the temperate man gives himself to drunkenness, the frivolous pores over the Bible, the bashful becomes impudent, the moral obscene, etc. This change in the mode of thought, in the affections and actions, is more evident the more rapidly it occurs, and more difficult to prove when it comes on gradually in the course of years. Cases of the latter kind are, if the insanity be limited to a slight degree, often very difficult to distinguish from eccentricity, immorality, capriciousness, or false views of life. In certain cases, which however are not common, no marked change can be distinguished, but rather a stronger development and increase of prominent peculiarities of character; and when, in such cases, the mental disturbance comes on slowly and gradually, it is difficult satisfactorily to prove insanity: this is seen in many cases of gradually increasing morbid desire for law-suits, in slowly increasing sensuality and ill-temper. This change is also wanting in congenital cases, and such as have existed from early youth; also in individuals who have been all along eccentric, peculiar, or mentally weak; and in these cases, when moderate in degree, it is often extremely difficult to diagnose the presence of disease (this difficulty is also felt when called on to distinguish between a slight degree of mental weakness or dementia and stupidity), while peculiarities acquired, and changes of the normal individuality still going on, are generally more easy to determine. From all this we learn that comparison with the former ways of the individual must always be a principal element in the consideration of these questions.

We must therefore make ourselves acquainted with the antecedents, the history, of the individual. Unfortunately, we are not always assisted in this by the friends and relatives of the patient, but frequently left ignorant, through their silence, of the most essential circumstances; we often learn more indirectly. Likewise, in the short-lived transitory insanity, as frequently presented in epileptics, in drunkards, and sometimes, without special cause, in those predisposed, the total change of the personality during the attack is an important point; but, indeed, the life of an individual may be such externally that the greatest contrast to his acts is seen during the "attack," while a knowledge of his inner life might show the cause of the emotion, in the disposition naturally strongest, though perhaps more or less externally concealed, from which these acts emanated. We must, therefore, be very cautious with regard to transitory insanity, which is quite familiar to many medical jurists (see Devergie, 'Où finit la Raison? où commence la Folie?' "Mémoires de l'Acad. de Méd.," vol. xxiii., 1859), and generally can be recognized even where the attack presents a dreamlike character, and where, ordinarily, the change of the personality is most complete. We should in all such cases note well the presence or absence of any premonitory symptoms; complete absence of such is suspicious.

§ 71. (2) Should the consequent change in the habits of the patient or the suspected exaggeration of certain phases of his individuality have occurred under circumstances which, according to experience, may be viewed as causes of insanity, or if the individual has been so situated as to be exposed to important exciting causes, we can, with still greater confidence, pronounce his state to be one of mental disease. Hereditary predisposition, nervous constitution, injuries to the head, dissipation, hysteria, epilepsy, may be mentioned as examples of the most important predisposing causes; while disappointment, fright, acute disease, the puerperal state, are amongst the most frequent exciting causes: the *causes* will be more closely considered in the following book. But, here also, there is great difficulty in proving and judging of the facts. The judgment is particularly difficult in those cases where there are circumstances which are, indeed, important causes of insanity, which in themselves might be considered as symptoms of mental derangement, but which are also very often presented as appearances of immoral desires, and have, without anything morbid, a demoralizing and degrading influence on the character, sentiments, and intelligence. Thus, a dissolute life, and particularly the abuse of alcoholics. Whether the perversity, the blunting of the feelings, and the habitual ill-humor of the drunkard in their moderate degrees should be considered as morbid mental states, is occasionally a question which can scarcely be satisfactorily solved. In the higher degrees insanity may always be admitted. In the same way, judgment may occasionally be difficult in cases where very powerful mental causes, motives to violent emotions, have existed, and where mental excitation or depression, with all their consequences, have ensued as natural results of that motive: for example, very great depression emotional after the loss of a fortune or the death of a friend, prolonged excitement after disease. The essential difference between a melancholic from mental causes and a person affected with sadness in a healthy way by the same cause is, that, in the latter case reaction takes place on removal of these causes or on the entrance of opposite conditions, while the melancholic cannot rid himself of his morbid grief, and his state continues, at least for a time, even after removal of the external motive: this distinction, however, can scarcely be employed as a practical diagnostic basis. The judgment is, as a rule, more easily arrived at when no such external occasional causes of the suspected state, of the consequent change in the habits of the patient, can be discovered—when, therefore, this change cannot be considered as healthy reaction from external events, and when, on the contrary, there exist prepared or predisposing causes, such as hereditary predisposition. Here we discover one of the most essential elements of insanity, viz., abnormal reaction from *internal* causes, from an abnormal mental state. If an individual has, on a former occasion, suffered from what was unquestionably an attack of insanity, this is of the greatest importance, for we know that a disposition to subsequent attacks is thereby founded.

If it were possible, taking into consideration the etiological and pathogenetic circumstances spoken of in the second book, to demonstrate the development of mental disease purely objectively, and apart from will, a very essential part of the problem would be solved.

§ 72. (3) The *symptoms* of mental diseases consist only to a small extent of definite, isolated, and unmistakable morbid appearances, and never in any case of directly palpable and physical signs. They depend essentially on the interpretation of the mental acts by an observer acquainted with disorders of the mental functions and their modes of expression. Two individuals may say and do the same thing; for example, they may express their belief in witchcraft, or the fear of being eternally lost; the intelligent observer would declare the one to be healthy and the other to be insane. This judgment is come to by a consideration of all the accompanying circumstances, and from a knowledge gained by experience of the various forms of insanity and their accompanying phenomena: the idea of being eternally lost is a notion entertained so frequently by melancholics, that it must at once awaken the suspicion of melancholia, and we may at once proceed to investigate whether the foundation of this idea is really that which is seen in melancholia and the delirious conceptions which accompany it.

Should the condition of the patient and the collective essential individual symptoms correspond to the image of one of the principal forms of insanity (to which all classifications must in the end return as they are really founded on nature), mania, melancholia, chronic mania or dementia, with the certain diagnosis of this form, of course *insanity* is also established. But, on the other hand, we cannot, as has been already seen, because the case does not completely coincide with one or other of these principal forms, come to the conclusion that no mental disorder is present. These principal forms have been established by carefully selecting the most characteristic states and connecting them into typical classes. There are, however, many intermediate conditions, mixed forms, imperfectly marked states, which do not exactly correspond to these classes. Generally it is not difficult to find out, at least, the general character, whether the state be one of exaltation, depression, or weakness: nevertheless, in certain cases, such as morbid dulness of sentiment, mania for lawsuit, etc., this general character even is not definitely marked.

The presence of a delusion is not at all necessary to constitute an individual insane, even in the narrowest sense of the term (in contradistinction to simple disturbance of the affective sentiments). In many cases no special delusion is present, or, at least, there is none exhibited, but the sentiments, dispositions, and conduct are altered in a morbid manner; and owing to a morbid state of the brain, the individual is influenced so that the healthy faculty of judgment is obscured, the intelligence formally involved, and the spirit held in bond. Such an individual can be "rational," that is, can speak without making great mistakes on ordinary objective subjects; he can distinguish right from wrong —direct his actions with a proper use of means, with apparent reflection; proves by his conduct that he knows a criminal act, and seeks to avoid the punishment thereof, etc.; he can, at least for a time, so conduct himself that nothing striking is observable, and yet his disposition may be so entirely altered, his whole affective sentiments so disturbed, that an essentially different relation of the personality to himself (his former *I*) and to the world is formed, and the irritation of sentiment can, at any moment, appear in impassioned perverted acts and desires. This is particularly observed in the primary stages of mental disease, and in many moderate cases of melancholia, in the slightest degrees of mania (*folie raisonnante*—see further on), and, very frequently, in the early stage of paralytic dementia.

In criminal cases, the act committed can of itself often give essential aid in answering the question whether the individual is mentally diseased, as, even in the act, there often lies a leading symptom of the insanity—indeed, the only ground for the assertion that insanity exists. (I may here note the many instances of murder of their own children.) In the great majority of cases, however, this is inadmissible and quite impossible;

we must rather, in order to prove insanity, and that the origin of the deed proceeded from mental disease, endeavor to establish before, exclusively and quite independently of the deed itself, the marks of insanity according to origin, symptoms, and course. The opposite course, that of making the deed itself the distinctive mark of an abnormal mental state, has led to the doctrine of instinctive insanity (homicidal mania, cleptomania, etc.), alike dangerous to science and to practice, and has only served to bring the medical opinion, very properly, to bear upon the judges.

But, finally, are there not cases in which, in criminal deeds, a morbid mental state exists and has influence, and yet presents no external manifestation? I believe it possible. Who would dare to trust himself to separate his mental mechanism as one would lay open the leaves of a book? Who would dare to deny the possibility of active organic influences of a morbid nature, not externally noticeable, when disturbed and disordered at the moment of action, turning the scales towards crime? In this sense I was compelled to express myself at the bar in the case of a murderer who suffered from well-constituted vertigo epileptica. I was constrained to say that, neither before, nor at, nor after the deed, did we find certain signs of mental disturbance, yet, notwithstanding, it was possible that this disease allowed influences to act on the phenomena of volition, which obscured reflection and weakened the freedom of will, without, however, manifesting themselves by any external symptoms.

§ 73. (4) Symptoms of bodily disease ascertained by the state of the pulse, the digestion, the secretions, etc., cannot naturally, in any case, be taken as proofs of mental disease; the diagnosis depends essentially and exclusively on the mental symptoms. Nevertheless those symptoms of diseases in other parts may be of great value. From them we are enabled to answer the question, Is the individual in a state of general ill-health? If, from these symptoms, this can be said with certainty—if, on the one hand, a striking mental change is observed, or very suspicious behavior, and, on the other, a general morbid state of the organism be present—it becomes highly probable that both series of phenomena are related to each other, *i. e.*, that the mental change is itself morbid. As, however, insanity depends essentially on an affection of the brain, there are none of all the psychical symptoms, not in the narrow sense, of greater significance than certain phenomena of disturbed (irritated, depressed, etc.) cerebral function. Therefore, anomalies of the central sensorial function, hallucinations, etc., are of such extraordinary value, and violent headaches, sleeplessness, fainting, anæsthesia, changes in the pupils, all concomitant convulsions and paralyses are also of such great importance, in the diagnosis of insanity. If these symptoms can be traced to an affection of the brain, and if we can, by these, prove that at all events a cerebral affection is present, it is clear that in few cases we can doubt that the suspected psychical symptoms depend also upon the cerebral affection; at least the opposite can seldom or never be shown. On the other hand, the non-appearance of such further symptoms, and the absence of all physical disorder (of the pulse, digestion, etc.), can never be taken as proof of the absence of a mental disease (*i. e.* a cerebral affection of which the actual symptoms are exclusively psychical); we frequently meet with cases of undoubted mental disease, especially chronic cases, in which the bodily functions remain unimpaired.

§ 74. (5) From the physiognomy, gestures, words, and actions of an individual, we learn the essential symptoms, those of the mental state. But there are cases where the external signs mislead, as the insanity is sometimes simulated, or—but not so frequently—feigned. When dissimulation is suspected, the following circumstances should especially be considered. The simulator, if he does not possess special psychiatrical knowledge, very seldom succeeds in correctly feigning the symptoms of any one form of mental disease. He generally mixes the appearances of several forms with each other, so that an unnatural representation of disease is offered. Moreover, he usually overdoes the phenomena of mental disturbance. He believes that all must be reversed; instead of giving expression to delirious conceptions, he talks absurdly, and conducts himself as if, in insanity, the greater part of the intelligence and of the memory must be disturbed; acts as if he could no longer count, read, write, or tell his name, etc. The simulator is careful, and very often shows great uncertainty in regard to how he can best play the fool; he expresses and withholds what would be of advantage or disadvantage to him. He presents few or no general (bodily) morbid symptoms; he requires far more rest and sleep than many patients, and is incapable of continuous muscular exertion (as maniacal excitement continuing for weeks without interruption). Therefore, the quiet forms of insanity are more easily simulated than the very agitated; the easiest mode of deception is to feign imbecility. It may be difficult also to give an opinion in cases where vague delirium with the character of weakness is simulated. Frequently, observation where it is unremarked by the patient, and even surprising him sometimes, leads to our object; but this we do not require to notice further. It is not necessary in this work that we should enter into the subject minutely. It is, however, important to observe that even the existence of simulation is by no means a certain evidence of mental health; the insane themselves frequently simulate: indeed, there is a kind of morbid pleasure connected with this simulating which may be compared to the analogous disposition noticed in hysteria, but must not be identified with it. We may also be brought to the opinion that the individual simulates morbid mental symptoms, but that he is nevertheless mentally deranged, only in a way different from what he simulates: in such a case, naturally, other signs of insanity must be present.

Should we suspect that insanity which really exists is feigned by the patient, who is conscious of the disorder, which may be affected particularly in the preliminary stages, or even occasionally with fixed melancholic delirious conceptions, when the general disharmony of sentiment has again subsided (H. Hoffmann), a continuous careful observation of him when he thinks he is unnoticed is a most important means of ascertaining the truth: it should be particularly observed how he passes the night; opportunities should be given him to express himself upon various themes, when he may occasionally betray himself; his writings, in which insanity often appears more strikingly than in conversation, are specially to be looked at.

That is not dissimultation when an insane man denies that he is ill—energetically protests against the suspicion of his being insane. A very adroit simulator could also imitate this denial: ordinarily this would appear to him too hazardous; he would show an opposite demeanor, he would readily declare himself ill, and especially mentally ill.

§ 75. (6) But, simulation excluded, and all that we have hitherto said carefully considered, still, in many cases, the question whether an individual be insane cannot with certainty be solved. The question, Whether mentally diseased or not? is by no means a correct one. There are no well-marked boundaries between health and disease in general; there is in mental as in other pathology, an intermediate territory of disorder which is not yet fully developed disease, and where the individual still exhibits many of the characteristics of health. Is not this the case with the simplest bodily troubles? Where is the exact point at which we pronounce a man blind? Only where there is absolutely no appearance of light? Or, who is dumb? Who is dropsical? The individual who has the slightest trace of œdema? If not, where does the limit of dropsy commence? When there are extremes, all are agreed. When the degrees are slight, we may even argue whether these signs may be taken into consideration in the case.

In mental medicine, however, many medico-legal cases fall within this category; for example, of deeds done in passion by persons habitually moody, and those of weak intellect—of habitual moderate excitement, or of perverseness with temporary distraction, of drunkenness, hysteria, etc.; cases of which it must ordinarily be said that the individuals are not in a healthy mental state, but the marks of definite mental disease cannot be clearly discovered; therefore, it is more probable than certain that their actions are regulated, or at least greatly influenced, by morbid organic causes. In the mode in which these actions are expressed there is, indeed, no marked line of distinction between eccentricity, passion, perversity of desire, dulness of sentiment, and mental disease; there is no constant sign from which we can tell whether those states result entirely from organic disease (morbid), or only partially from such, or whether they exist without organic influence, as original traits of character, or as the hereditary results of the psychical individuality. All existing phenoma of cerebral disorder, hallucinations, paralysis, etc., and all physical morbid appearances, are here of special value.

We must bear in mind that in very many cases there are few distinct, clear, and perfectly demonstrable signs of mental diseases or health—that the general and collective impression of the patient and his acts much more determines the opinion. On such a collective impression, however, only the man who thoroughly understands the question, an intelligent physician, ought to proceed. A subjective view of a case by one man, who at the moment cannot clearly show on what individual grounds he forms his conclusion, may be highly valuable—by another man quite worthless. We must not therefore believe that *every* physician to an asylum is capable of so judging.

§ 76. It is now evident that the question whether an individual be mentally diseased can only be decided by a careful personal examination; nevertheless, very recently, and in some cases perhaps still, the physician is expected to state his opinion merely from a description of the actions. After becoming acquainted with the chief facts of the case, we at once proceed to a personal examination of the patient. Not unfrequently, the very state of what immediately surrounds him shows, to the experienced eye, in the most unmistakable manner how matters stand: the apartment is fantasically decorated, the clothing is odd, disorderly, torn; there are marks of neglect, of dirty habits, freakishness, all of which were before foreign to the individual. In the next place—without showing the patient that any particular attention is directed to him—his physiognomy, his bearing, his conduct, are to be observed, especially in so far as they are expressions of certain dispositions: the countenance in the really insane is frequently strikingly altered, or irregularly distorted, clearly expressing certain passions and emotions; the voice may, particularly in melancholics, be often taken as a true expression of the ruling disposition. Conversation with the patient must, as far as possible, be carried naturally and calmly; sympathy should be shown, we shoud seek to rouse his attention and gain his confidence. In general, it is best to commence with questions regarding the bodily sensation, certain requirements or wishes, etc.; then to proceed to the former life of the individual, the history of which we allow him to relate in an unconstrained manner; hereby we seek to understand his story, views of life, interests, hopes, and plans, in order to receive from these, in connection with that communicated by others, a collective picture of his former individuality. We inquire into his present disposition, his given intelligence, his conduct (especially according to the point of view in the preceding chapter and third book). In how far these have become altered in his present state, what has occasioned these changes—whether they are to be considered as really morbid, whether any criminal deed might result from the morbid disposition or mental condition—become now objects of our judgment; we may conclude by a minute investigation of the general physical state, and an examination of the several organs, the lungs, the heart, the arteries (so very important), the organs of digestion, the secretions, etc. All signs of paralysis, faltering in speech, dissimilarity of the pupils, etc., are particularly to be noted. The primary stage of paralytic dementia frequently appears in the form of *folie raisonnante*, of perverted activity with relatively little disturbance of the intellectual faculties, which leads the patient to commit illegal acts, especially to steal. The patient must continue under observation until a definite conclusion can be arrived at, or until it becomes evident to us that no decision can at present be come to, and that any further examination would elicit nothing essentially new.

§ 77. The other question, whether an individual whose psychical functions are disturbed suffers from a so-called mental disease in the narrow sense of the term (§ 6), or from some other cerebral disturbance or disease, cannot, in many cases, be definitively solved, because various kinds of cerebral affections may appear as mental diseases (§ 6). But gross errors can and must be avoided; and above all, we must endeavor to establish a diagnosis, in some degree special, of the cerebral affection. The most frequent mistakes are made in intoxication, in typhus fever, and in acute meningitis.

Intoxication is generally very easily distinguished by the smell of the breath after the abuse of alcoholics, from the imperfect utterance which never appears at the outset of mental disease, and from the rapidly ensuing drowsiness and desire to sleep. It has, however, been occasionally observed that a fit of drunkenness has occasioned the acute commencement of insanity (but in every case predisposed from other causes), and, further, that there are certain specially predisposed individuals who, even after a moderate indulgence in the use of spirits, fall into a state of excitement which has more the character of mania than of drunkenness.

Typhus fever, in its first periods, occasionally appears under the form of a maniacal attack with great excitement, attempting to get out at the window, etc., and cerebral congestion, or even under the form of melancholia with stupor; or as a more vague delirium, in which the patient may walk about for a certain time. In all mental disorders coming on unexpectedly in young persons, we should keep in view the probabilty of typhus fever, more especially when it is epidemic. First of all, we note the feverishness (especially the increased temperature as shown by the thermometer), the nightly exacerbations—the full, weak pulse—the splenic enlargement, the roseola, the meteorismus, the yellow flocculent stools.

Not long ago, a young man was brought to me at the hospital as mentally diseased; he had for several days shown symptoms of bewilderment, and on the previous night had left his room by the window and proceeded to his office at a distance. The great uncertainty of gait, complete incoherence, hesitation in speech, marked inequality of the pupils, permitted, in the absence of other history, the assumption of quickly developing mental disease with paralysis; the hot dry skin, and frequent, full, compressible pulse, awakened in me, at the same time, the suspicion of fever. As soon as the patient was laid in bed, the diagnosis could with certainty be established: the course of the disease was serious, but ended in recovery. It is a well known fact that, at one time, a German psychologist who was ill of typhus fever was sent to an asylum as insane by one of his colleagues.

Acute meningitis with strong inflammation at the convexity is manifested by violent headache, vomiting, ordinary delirious excitement, convulsive appearances, changes in the pupils; it is always accompanied by high fever—the patient is compelled to keep in bed. This disease is, on the whole, rare, and its course is rapid; in the majority of cases there is rapid sinking of the vital powers; decreasing pulse, coma, and destruction of all the mental faculties. Basilar meningitis and the tubercular affections of the membranes present essentially the same symptoms, but a somewhat more protracted and irregular course. As a rule, tuberculosis of the lungs may be discovered; where this does not exist, the diagnosis from the first form is, in adults, uncertain. From what has been said, it is certainly but seldom that these forms can be confounded with mental disease; still, there are cases of somewhat protracted moderate tubercular basilar meningitis which may again improve, and which present the appearances of mania (but with convulsion, contraction of the cervical muscles, etc.), and now and then, recent and rapidly fatal cases are actually brought to asylums as cases of mania. From this diagnostic question, that disease which according to the older pathology was designated meningitis is to be quite excluded; for the so-called chronic meningitis there are no completely satisfactory diagnostic signs.

When, however, these great mistakes are excluded, when it is clearly established that the patient is *mentally diseased*, then commences a new series of diagnostic questions; namely, which state of the brain may, in this concrete case, lie at the foundation of the mental disorder (§ 6). In this, the same fundamental principles of diagnosis hold good as in all other affections of the brain. An evident disease within the cranium is, if any paralytic appearances are manifested, probably unilateral; states of congestion are arrived at by their well-known signs (heat, redness, etc.). In the immense majority of cases no definite anatomical diagnosis can be established, but the general (and very important) symptomatic physiological diagnosis, whether the symptoms represent more a state of active irritation, or of torpor, or of exhaustion of the cerebral functions; this is to be determined, not by the psychical symptoms alone, but by all the appearances collectively. Now we come to the concluding series of questions—viz., whether the existing cerebral disturbance is primary and idiopathic, or secondary and sympathetic (from disease of other organs, from changes in the blood, etc.); in a word, the question of pathogenesis, the solution of which is to be sought from the present symptoms in connection with the etiology and history of origin of the disease (see the following book).

BOOK SECOND.

THE CAUSE AND MODE OF ORIGIN OF MENTAL DISEASE.

CHAPTER I.

THE CAUSES OF INSANITY.

§ 78. UNDER the head of Causes in mental as in general pathology are understood all the different classes of circumstances to which may be ascribed an influence on the development of the disease, although their mode of connection may be variously exhibited. The causes comprehend, on the one hand, the external circumstances (nationality, climate, season of the year) under the influence of which insanity is generally, with more or less frequency, observed; on the other hand, they signify certain external injuries (sunstroke, wounds of the head) of which insanity is frequently a consequence; finally, they comprehend certain internal states dependent of the organism itself (hereditary disposition, previous disease, or other general disturbance of the organic mechanism, such as disease of the lungs, the genital organs, etc.) which we know by experience have an influence in the development of insanity. In very many of these circumstances the intimate connection between them and the influences ascribed to them, the mode in which from them the mental disease is developed, is scarcely ever or not at all evident. The conclusion *post hoc ergo propter hoc* depends, therefore, only on a simply empirical (statistical) knowledge of the fact that these particular circumstances (for example, hereditary disposition) very frequently coincide with, or precede, the commencement of the insanity. In other of these so-called causes, their mode of action, the manner in which, in consequence in them, the disease is established, can be comprehended. But the province of *etiology* in the narrow sense is only to enumerate empirically the known circumstances of causation; it belongs to *pathogeny* to explain the physiological connection between cause and effect, to show the particular mechanical act by means of which insanity is induced through a given circumstance (for example, excessive depressing emotion, heart-disease, etc.), a task towards which we have hitherto done little more than prepare the way.

§ 79. Etiology, and especially pathogeny, are of the utmost importance in the practice of mental medicine. If, then, the old saying *sublata causa tollitur effectus* is no longer sanctioned in this, as in general medicine, in fully developed and confirmed disease, and if, likewise, the removal of many remote causes is beyond the power of the physician, still we frequently see, especially in commencing insanity, that by removal of certain of the many ordinary co-operating causes, the disease may be successfully combated, and especially all the various periods of transition in the disease, all those organic disorders which pathogeny points out as intermediate between the external causes and the developed cerebral disease which is their final result, present rich opportunities for medical treatment. Further, even the theory of insanity cannot be understood without a full knowledge of its causes and of its mode of progress in individual cases: therefore, the etiological questions are the most important in the whole range of mental therapeutics.

In concrete cases, we deduce the etiological circumstances from the history of the case; and this is always to be collected with the greatest care and strict attention to the minute details. It is here necessary, in the first place, to guard against the great mistakes of assuming, without satisfactory evidence, the conjectures of those who have hitherto surrounded the patient regarding the origin of the disease, or, as happens so often, of considering as real causes even decided symptoms of the commencing insanity, or only the last accidental circumstance which caused its evident outbreak. We ought not, however, as a rule, to be satisfied merely with the striking bodily or mental circumstances which immediately preceded insanity, but must assume a position from which the present morbid state can appear as the ultimate result of all the preceding circumstances of life. The inquiry into the history of the case ought to embrace the whole of the bodily and mental antecedents of the individual. It must commence *ab ovo*, indeed from former generations—family predisposition—and minutely trace the bodily development, habitual state of health, the nature of the diseases to which the patient is subject, and of those which he has already had. Likewise, as regards the mental sphere, we must faithfully and intelligently comprehend the relation of the predispositions and congenital peculiarities of disposition, the degree of education, and the governing inclinations of the individual —his mode of life and views of the world, his outward position and the nature of his thoughts; thus endeavoring to gain a full picture of the history of the individuality. Only in this way is an insight into the true history of these diseases possible; only thus can we succeed in grasping at their beginnings those fine threads which have ultimately entwined themselves into delirious conceptions; only thus can we, in many cases where insanity appears suddenly and apparently without motive, recognize the far-back commencement of the preparation for the disease, and the almost mathematical necessity of its occurrence. All this is of the highest importance in a system of treatment which gathers from the history of the case indications, sometimes for the amelioration of inveterate chronic morbid processes, at others for the removal of certain psychical causes, and which requires a profound knowledge of the character of the individual to enable us to employ all his inherent resources in support of our active treatment.

The opinions of those about the patient regarding the etiology of the disease are more frequently erroneous than correct, and almost always are at least one-sided. By laymen, and even by physicians, symptoms of commencing and occasionally of already confirmed insanity are frequently regarded as causes. In the commencement of the mental disease, a strong desire for alcoholics, or strong sexual irritation leading to excesses or to onanism, can, for example, appear as symptoms; the already existing emotional excitement may occasion indiscreet connections, rash speculations, religious vexations and discussions, and the error is often committed of ascribing the disease to drunkenness, unfortunate love, an unlucky venture, religion, etc., etc. So, also, it very often happens that insanity is considered by the friends of the patient or by an experienced physician as of recent origin, which, on closer investigation, shows itself to be of many years' standing and already deeply rooted. Pinel himself relates the case of a patient who was said to have been nine months insane, while in fact the disease had existed for fifteen years.

The German psychologists claim the merit of having always understood the etiology and pathogeny of insanity more thoroughly and correctly, and of having more successfully elaborated it, than the French school. While the latter, partly even in recent times (Moreau de Jonnès, Brierre, Parchappe), still adhere to abstract tables of physical and moral causes, in which drunkenness, epilepsy, ambition, prostitution, politics, loss of fortune, etc., are ranged as being of equal importance, the German psychologists (Heinroth and Ideler from the psychical side—Bergmann, Flemming, Jacobi, Jessen, Nasse, Zeller, etc., partly with greater regard to bodily causes) have for long insisted on investigating the causes in each individual case; and it has been more the plan with us most carefully to consider all the circumstances, in their various connections, which can influence the development of the morbid state.

§ 80. A closer investigation of the etiology of insanity soon shows that, in the great majority of cases, it was not a single specific cause under the influence of which the disease was finally established, but a complication of several, sometimes numerous, causes both predisposing and exciting. Very often the germs of the disease are laid in those early periods of life from which the commencement of the formation of character dates. It grows by education and external influences, or in spite of these, and it is but seldom that the abnormal psychical irritability attains either gradually or through scarcely noticeable intermediate stages to an evident disorder of mental function. More frequently there are a greater number of psychical impressions and bodily disorders, by the successive influences or unfavorable combinations of which the disease is developed. It is then not to be ascribed to any one of these circumstances, but to them as a whole. Thus, for example, we see in the concrete cases, long-continued drunkenness and violent emotion, hereditary disposition, domestic unquiet, and heart disease—childbirth and violent anger or shock—disappointed love and commencing tuberculosis; in short, we generally see several injurious influences acting on the organism, or states of disease already present—and often more numerous and more complicated than these examples—appear as causes of insanity.

The difficulty lies in the proper appreciation of the influence which each one of these circumstances has on the production of the disease. We must here endeavor by every means to keep the mind unbiassed by this or that theory, and from one-sided preference of one or of certain series of causes; for example, the somatic or the mental. The judgment ought only to be guided by a minute investigation of the facts of the case; where empirical data as to the cause are in any case wanting, they ought not to be supplied by conjectures, and the importance of the single circumstances present is to enable us to conform to the principles of a rational pathology.

An influence of causation can naturally be attributed with most certainty to those circumstances whose mode of action can be clearly traced, and whose effects therefore may be considered as physiological necessities; or, where this is not the case, to those whose influence is established by reliable statistics. A slight gastric affection, hæmorrhoids, or a transient cutaneous eruption, cannot, for example, be considered as causes, because no statistics warrant the opinion, no visible connection exists between these affections and insanity either as to their gravity or nature. On the contrary, disease of the heart or of the arteries are manifestly important etiological circumstances, as they can affect the circulation within the cranium. Depressing emotions would appear to be such, though little is known regarding their mode of action, because they—as statistics incontestably show—very frequently precede the coming on of insanity. The possibility of mental disease originating from the irritation produced by intestinal worms (tænia) can scarcely be entirely rejected, as we occasionally see other serious cerebral diseases (epilepsy) originate from them. We should always bear in mind that anything, to be a cause, must really precede the presumed effect: we should not, for example, when serious disorder of the digestive organs appears simultaneously with the commencement of insanity, conclude that chronic disease of the abdomen is the cause of the insanity. In some cases all etiological data utterly fail, and the insanity originates gradually, like many other chronic diseases, from influences wholly unknown. Nothing is more erroneous than here to suppose an imaginary bodily cause, and to allow such a supposition to influence our mode of treatment, as, even in the present day, is so often done, especially by the votaries of the so-called somatic school.

§ 81. After extensive observation and comparison, we find that the etiology of insanity is in general none other than that of any other cerebral or nervous disease. In particular, the etiology of epilepsy and of the states of chronic irritation of the spinal cord offer instructive analogies as well in regard to predisposing as to the more immediate causes. Excluding the predisposition circumstances (period of life, hereditary predisposition, certain errors in education), we find that in all these diseases two distinct modes of origin may be recognized: in the first place, an origin (idiopathic) from influences working directly on the brain—shock, injury, excessive fatigue and exhaustion of the brain and entire nervous system, alcoholics, narcotics, excessive mental irritation through emotion, and the like; in the second place, an origin (symptomatic) resulting from other further morbid changes in the organism through which the function of the brain becomes affected. These different morbid states now appear to act upon the brain principally in three different ways: in the first place, by generating or favoring anomalies in the circulation (hyperæmia, anæmia) within the cranium (diseases of the heart and arteries); in the second place, by nervous irritation of the brain, which we can scarcely otherwise account for than by communication and transmission of peripheral irritation of certain nerves to the central organ, occurring to a certain extent in a reflex manner (injury of a peripheral nerve, influence of the sexual organs, etc.); in the third place, by deficient nutrition and excitation of the brain in consequence of dyscrasia (general anæmia, etc.).

On this account, the distinction between an idiopathic and symptomatic origin of insanity cannot in the concrete cases be fully carried out. It is here just as in epilepsy, in which it has been frequently attempted. This is explained by the fact that, on the one hand, in general many injurious influences are at work which act in different ways; and, on the other hand, that certain etiological circumstances, especially the all-important pressing emotions, not only in different cases, but also simultaneously in the same individual, may affect the brain either primarily, or secondarily and indirectly, in consequence of chronic affection of other organs and general destruction of the constitution.

In so far, however, as it can be established and proved, this distinction is very valuable. It agrees in part with the distinction between mental disease resulting from anatomical changes within the cranial cavity, and those existing without any palpable disease of the brain or its membranes. In the latter states the insanity is frequently transient, dependent on morbid conditions of other organs, and a purely functional disorder (for example, the hysterical insanity from anæmia or disease of the genital organs): in the first group, again, the cerebral disease is more fixed and more independent; for example, paralytic dementia, the chronic mental weakness of drunkards, etc.

In the following remarks on the various classes of etiological circumstances, their mode of action will be minutely considered. In their enumeration we shall adhere to the customary division into predisposing circumstances and special causes (not altogether correctly exciting or occasional causes), which, notwithstanding certain of the influences to be mentioned (for example, disorders of menstruation, psychical influences), can act sometimes as predisposing, sometimes as exciting causes. In this arrangement, which at present is the most convenient, any departure from scientific exactness may be compensated for by a careful analysis of individual cases.

CHAPTER II.

THE PREDISPOSING CAUSES OF MENTAL DISEASE.

§ 82. If we consider the extreme frequency of all the injurious influences which have been enumerated as causes of mental disease, and the comparative variety of their direct orgin from these causes, we are of necessity led to the assumption that certain preparatory circumstances are requisite in order that, in individual cases, disease generally, and in particular this disease, may arise—that a certain susceptibility and predisposition to such diseases must advance to meet the sometimes slight exciting causes. Indeed, in the present state of science, we are necessitated to admit this assumption in most diseases of the nervous system. The cases of injury are innumerable, and it is only seldom that tetanus succeeds them. Numbers of children suffer from worms, and few only fall into convulsions; many individuals live under conditions which are acknowledged to exert a powerful influence on the development of mental diseases, and only a few of them really become insane. Should we attempt to explain these neuroses, which cannot be more definitely accounted for by the assumption of a special disposition of the nervous system, it may appear, indeed, that we are but using empty words concerning an unknown subject; but sometimes a more minute investigation permits us here to penetrate into the more intimate relations of this disposition. We, know, for example, that in warm countries tetanus more frequently suceeds injury than in our climate, that this complication is favored by a cold caught at the time of the accident, or by mental irritation and the like. The same may be said of insanity. We know by experience that there are series of circumstances which have a preparing and favoring influence on its origin. The study of the predisposing causes of mental diseases embraces, on the one hand, the consideration of *those more distant relations which influence whole communities*, and can only be shown by statistics, their mode of action on individuals being quite uninvestigable,—viz., nationality, climate, season of the year, sex, age, difference of social position, and the estimation of their influence on the origin of these diseases: on the other hand, together with these general relations, we have also to analyze the *individual* predisposition congenital and acquired, such as hereditary disposition, education, constitution, peculiarities of character, bad habits, etc. Doubtless, the predisposing circumstances are more important, stronger, and act more frequently in the production of insanity than the occasional causes. He who has a strong individual predisposition, especially if of a certain definite kind, is endangered by the slightest occasional causes; while the man in whom this is entirely absent can be exposed to the most serious conflicts with perfect safety to his mental health.

Section I.—*General Predisposing Causes.*

§ 83. 1. *Nationality.*—The idea of nationality includes a number of the most varied relations—the climate, the fertility of the soil, the principal employments of the inhabitants, the dominant religious creed, the degree of civilization, the public morality, the previous lot of the people, the form of government, etc. These all co-operate to form certain national peculiarities which are propagated as persistent types from father to son; but as all these circumstances act only when combined and associated, it is impossible to accord to each of them individually its influence on the origin of insanity—it is only statistically that the reports concerning the frequency or rarity of insanity in the various countries can be compared, and even this leads to little satisfactory results. Of scarcely any country in the world do we possess quite trustworthy statistics. Where more exact reports are presented, they are often rendered comparatively useless, owing to their not being collected according to the same method, and especially—a great source of difference of numbers—owing to the mixing of two states which ought naturally to be separated—insanity proper, and idiocy and cretinism. Of many districts our knowledge is limited to an average calculation of the *number of the insane in asylums,* so various in different countries. The unsatisfactoriness of this is self-evident. There is still another possible source of considerable mistake which cannot be completely elucidated, namely, the probably different duration of life amongst the insane in different countries (where life is more prolonged, the number appears greater). It will be well, therefore, to accept the following statement with great reservation.[1]

§ 84. For the countries of Germany there are many statistics prepared at different times, and differing much in value. We shall only mention a few of the most interesting.

In the Rhenish provinces of Prussia, the number of the insane in relation to that of the community was, in the year 1828, 1 in 1027; more recently Jacobi estimated it at 1 in 666. In Westphalia, in 1836, 1 in 1590; or, inclusive of idiots, 1 in 846. In Silesia, in 1832, 1 in 1160; in 1852 there were in this province 2147 insane, of whom 969 were idiots, either congenital or from early infancy. In the province of Saxony, in 1836, 1 in 968. In Old Pomerania, in 1847, 1 in 931.

For Austria we have very meagre statistics. In 1849 there were, in the twelve kingdoms comprising the empire, with 22,643,000 inhabitants, 6254 insane in asylums (in eight of these kingdoms there were, at that time no asylums). In Moravia and Austrian Silesia there were, in 1857, 1740 insane, of which, however, 1275 had congenital mental disorders; so that (excluding these) there were only 7.8 insane to every 10,000 inhabitants.

More trustworthy results are afforded by the recent calculations made in several of the smaller German States. In Würtemberg, where in 1832 there was 1 case of mental disease (exclusive of idiots) to 1500 inhabitants, in 1853 there were 1917 insane and 3740 congenital idiots; of the first there was 1 to 943 inhabitants. In Hanover a calculation made in 1836 gave as a result 3084 insane (1 to 590 inhabitants). In Baden there were, in 1850, on the whole, about 3000 insane including cretins, or 1 to 454 inhabitants. In the Palatinate of Bavaria (according to Dick), in 1856, there were 418 insane (1 in 1374 inhabitants) and 563 idiots (1 in 1020 inhabitants). In the Bavarian district of Upper Franconia (according to Stahl), there were, in 1850–53, about 450 insane (1 in 1046 inhabitants). In Oldenburg there was, in 1845, 1 insane (including idiots) in 636 inhabitants. In Brunswick (including idiots), 1 in 539 inhabitants. In the Duchies of Anhalt, in 1849, nearly 1 in 450 inhabitants. In Nassau, in 1840, 1 in 607—in 1856, 1 in 378 inhabitants. The chief differences in these figures do not certainly depend on differences of the actual number of the insane, but rather on the varying frequency of idiocy and cretinism, and especially on the fact that the calculations were based on different principles and made in various ways. At all events, these recent calculations give the general results that the average number formerly assumed as well for Germany as for the other countries of Central Europe, of about 1 insane in 1000 inhabitants, is much too low; that it should (including idiots) rather be taken at 1 in 500 inhabitants. The lunatic asylums of all Germany contained, in 1852, 11,662 patients (Lähr).

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[1] The following are gathered from the best sources up to 1859. Frequently, however, I have been obliged to limit myself entirely to older statistics, owing to the want of reliable reports of more recent date. Quotations have only been made use of in certain special cases.

In France the old statistics calculate 1 insane in 1900, or, according to the probably more correct valuation of Piérquin and Brierre, 1 in 1000: a more recent calculation (1852) gives 1 in 800 (795 inhabitants). In Belgium the proportion stood, in 1835, at 1.22 to 1000. Guislain considered this number far too small; but as he repeated them in the 'Leçons orales,' 1852, it would appear that up to that date no new calculation had been made. Moreover, the number of the insane varies very much in different provinces. In Eastern Flanders the proportion is 1.73; in Western Flanders, 1.33. In Luxembourg, only 0.51 to 1000 inhabitants. In Ghent there is 1 insane in 302; in the province, 1 in 1473 inhabitants (Guislain, 1852): in 1853 the total number of the insane amounted to about 5500. In Holland there were found, in 1850, 3056 mentally diseased (1 to 1000 inhabitants). Schröder van der Kolk considers this estimate too small, and that 1 in 800 would be more correct.

In England, Scotland, and Ireland, there were, in 1847, 41,810 patients in asylums. The proportion of the insane to the population has been estimated by Piérquin at 1 in 783; by Hitch, for Wales alone, at 1 in 500; by Tuke, 1858, for England and Wales (including idiots), 1 in 300. In Scotland, in 1855 (including idiots) the proportion was 1 in 390. In Ireland, 1 in 569.

For Denmark (exclusive of the Duchies and the Colonies) it was calculated that in 1847 there where 1761 insane, and 1995 idiots and cretins. In the Faroe Islands there was 1 insane in 114 inhabitants: almost one third of these, however, were cretins. In Norway, in 1835, there was 1 insane in 334 inhabitants; in 1845, 1 in 309—in 1855, 1 in 239 inhabitants. Amongst the insane, numbering 6240, there were, however, 4911 cases of mental weakness, of which almost two-thirds were congenital.

Regarding Italy and Spain no comprehensive or reliable statistics are known to me.

As to the countries of the East, no correct valuation can as yet be made. There are, however, a few exceptions: for example, Malta, where in 1836 there was 1 case in 7–800 inhabitants, and the Greek population of Smyrna, where there was 1 in 1000 (Horeau). This is not without interest, as it shows that in spite of the great difference of climate, we find in these places, where European civilization predominates, the same proportion of insane as is found at the same period in European countries. It is generally supposed that the number of those afflicted with mental disease is smaller in the East than in civilized Europe: I will not deny this, but I have convinced myself than in the towns a great many insane persons appear as beggars, fanatics, etc.; Cairo abounds in such semi- or often wholly-demented individuals, and he who would form his opinion from the small number of insane in the asylum at Boulak, near Cairo, would very much deceive himself. In general, the remarks of travellers in half or uncivilized countries concerning the frequency of insanity are entirely worthless.[1]

For the United States of America the number of the insane in the State of New York, in 1825, amounted to 1 in 7–800; in Massachusetts, in 1854 (including idiots), to 1 in 302. In 1849 it was calculated that in the Union there was 1 insane in 500 inhabitants: more recent reports, however, give a much higher proportion. According to Brigham, of Boston, the proportion of the insane is in North America almost three times as great as in England—a consequence of the immense commercial, political, and religious excitement.[2] In the States of La Plata, mental disease is very frequent (Saurel). In the East Indies it is not rare, but not so frequent as in Europe (Wise, physician to a lunatic asylum in Bengal).

§ 85. From the discrepancy and insufficiency of these statistics, it is evident that we are deficient in the very first elements necessary to the solution of the much-discussed and ambiguous question, whether *the progress of civilization* has increased the number of these diseases. We possess no trustworthy statistics from uncivilized countries to compare with those of civilized, nor have we from by-gone centuries any information to enable us to make a comparison with present conditions; and even if we had such statistics, they would not enable us to penetrate entirely this complex question. The question of the influence of modern civilization ought rather to resolve itself into a series of isolated problems, such as the influence of the increasing growth of the population in large towns, the influence of the manufacturing industries peculiar to many country places, the influence of the diffusion of education, the press, etc. Hitherto it may be considered possible that the constantly increasing number of the insane which is almost universally remarked is only apparent, and that it is owing to the increase of the population, the great attention now paid to mental diseases, the more exact methods employed to ascertain their existence, and to the circumstance that all improvements in asylum matters lengthen the period of life amongst the inmates, thereby causing the admissions greatly to exceed the number of deaths, and the patients consequently accumulate. It is, I say, possible that it may be so, but very improbable; and I would rather coincide with the opinion of most medical psychologists, that the increase of insanity in recent times is real, and quite in accordance with the relations of modern society, in which certain causes, according to experience, exerting a great influence, which cannot however be quite expressed in figures, have become stronger and more extended. The progress of industry, art, and science necessitates a general increase of the cerebral functions; the constantly increasing departure from simple modes of life, and extension of the more refined mental and physical enjoyments, bring with them desires and emotions formerly unknown. The general possession of a liberal education awakens in the minds of many a feeling of ambition which few only can gratify, and which brings to the majority but bitter deception. Indus-

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[1] It may be left to the reader to judge of the value of the statement of Dr. Butler, who spent twenty-five years among the Cherokee Indians, that during that period he had never seen a well-marked case of insanity.—Bucknill and Tuke, 'Psychological Medicine,' London, 1858, p. 46.

[2] Holland, 'Chapters on Mental Physiology,' p. 77.

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trial, political, and social agitations work destructively on individuals, as they do on the masses; all live faster—a feverish pursuit of gain and pleasure, and great discussions upon political and social questions, keep the world in constant commotion. We may say, with Guislain, that the present state of society in Europe and America keeps up a general half-intoxicating state of cerebral irritation which is far removed from a natural and healthy condition, and must predispose to mental disorder: thus many become insane. The demoralizing influence of large towns—in Paris it is estimated that there are 63,000 individuals who maintain themselves by dishonest means and at the cost of society, in London there are thousands of children already devoted to crime and prostitution—the greater frequency of celibacy, the altered relations of religion, may be considered as co-operating circumstances: but, on the other hand, we should not forget that the greater diffusion of knowledge and of comfort, and better hygienic conditions, oppose these injurious influences; that drunkenness probably everywhere, but certainly in those countries, such as England, where it used to be considered one of the most powerful causes, is supposed to be steadily decreasing; that the community in civilized countries has opened up to it in asylums means and ways of recovery which were unknown to former generations and to uncivilized countries. These circumstances ought to compensate, at least to a certain extent, for any injurious influence of the spread of civilization.

It has been said that the numbers of the insane in England have increased ninefold within the last twenty years.[1] Naturally, neither the population nor the civilization has increased in this proportion. We can speak of instances of much smaller increase: for example, in Würtemberg, in twenty-one years, the number of the insane have increased from 1 in 1500 to 1 in 943. It is, however, in general, quite inadmissible always to at once ascribe that which distinguishes the present generation from the former to the "progress of civilization." According to this theory, one should also attribute the increasing improvements in the murderous weapons used in warfare to our higher state of civilization! The above-mentioned diminution of drunkenness is a mark of real civilization which indeed deserves the name: this does not engender disease, but prolongs life, and conserves the power and the health of generations.

Large towns very evidently furnish more insane than country districts; but whether manufacturing or agricultural pursuits have a marked influence on the frequency of insanity—whether commercial nations, as such, in this respect acquire an unenviable notoriety—whether Catholicism or Protestantism favors insanity, and many similar questions, must for the present remain unanswered for want of material, and owing to the unavoidable complexity of the influencing circumstances. It would be useless to rush forward with arguments in favor of or against the statistics, and to attempt to solve inexplicable questions.

It is a remarkable fact, that great political agitations appear to have less influence on the frequency of mental diseases than might at first be supposed. Esquirol remarked this at the time of the first French revolution. According to many French and German physicians (excepting Brierre), the revolutionary movement of 1830, and especially of 1848, gave rise to little or no increase in the number of cases of insanity. To the laity the influence of the revolutions appeared very considerable, because in these times politics formed the subject of the delirium in many patients: this, as we have seen, is a purely accidental and superficial relation.

§ 86. 2. *Sex.*—The question whether the one sex be more disposed to insanity than the other cannot be definitely answered, owing to the want of sufficient statistics. On this subject there is an abundant literature containing many statistics, but we have no guarantee for their correctness; in particular, all statistics framed from *asylum* reports are insufficient and apt to mislead. From the very nature of things, especially before the recent improvements in asylum matters, female patients constituted the minority amongst the inmates of the asylum; their families have more hesitation in parting with them, and, besides, they are more easily attended and restrained at home than men: indeed, the older statistics of Fuchs,[1] prepared according to the numbers in a great many asylums, show a relation of 100 men to 75 women. France and the Netherlands formed, however, an exception; the number of females in these countries being greater than that of males. In more recent times the German asylums also appear to contain considerably more males than females: for example, the asylum of Siegburg[2] has in 18 years received 900 males and 566 females, and that of Winnenthal,[3] in 10 years, 396 males and 251 females; while the French establishment St. Yon admitted in the 8 years from 1835 to 1843 exactly the same number of men as of women.[4]

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[1] Bucknill and Tuke, 'Psychol. Med.,' p. 32.

From all these statistics, however, it does not follow that insanity is really more frequent in the one than in the other sex. The statistics of Esquirol, which included 70,000 patients of all countries, but not on that account founded on a more secure basis, showed a slight majority in favor of the female sex. For England, Norway, Denmark, Rusia, and North America—also for the Prussian provinces of Westphalia and Saxony, and for the Southern departments of France—the statistics have as yet shown more men than women; while, on the other hand, in the northern provinces of France, and in the Netherlands, the number of females is the greater. Likewise the older and the new statistics (1832 and 1853) for Würtemberg, for the Palatinate of Bavaria, and for Holland, show an excess of females. All these reports seem to require confirmation; they do not admit of a general conclusion, but show that in different localities different relations exist in this respect.

It would be equally inadmissible to attempt to draw *à priori* conclusions from the frequency and significance of several causes special to the female sex. The disorders of menstruation, pregnancy, childbirth, are undoubtedly circumstances which frequently become causes of insanity; but there are also in the male sex a series of circumstances special to it, such as the more frequent drunkenness, mental exertion, the struggle of ambition, the emotions and exhaustions which necessarily accompany an active life. The circumstances certainly counterbalance the special influence of the sexual process on the origin of insanity. In women we frequently find that the more simple forms of mental disease may be more easily concealed, and admit of the patients being kept at home; while the same forms coming on in man render impossible the continuation of their calling and the maintenance of their social position.

As to the influence of *marriage* or of celibacy, all accounts[5] agree in this, that insanity is more frequent amongst unmarried men, and that amongst women more married persons become affected—a fact which can only be explained by the earlier marriage of the female sex. Of widowed persons there are more belonging to the female sex; this may be owing to their helpless and unprotected condition in such circumstances. Certain statistics, as those of Rhenish Bavaria for 1856, show a large proportion of widows. Zeller, too, very properly remarks in regard to the influence of married life, that if, indeed, celibacy appears to present more occasion to mental disorder, still, in not a few cases, the marriage connection and the misfortunes resulting from it have been the chief causes of the disease.

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[1] Prepared in the year 1833; loc. cit., p. 96.

[2] Jacobi, 'Die Hauptformen der Seelenstörungen,' i., 1844, p. 573.

[3] Zeller, 'Report on the Efficacy of the Hospital for the Insane at Winnenthal;' "Journal für Psychiatrie von Damerow und Roller," 1844, i., 1, p. 73.

[4] Parchappe, 'Annal. Méd. Psych.,' 1843, ii., p. 367.

[5] Fuchs, loc. cit., p. 103; Köstlin, loc. cit., p. 9.

§ 87. 3. *Age.*—No period of life assures absolute immunity from mental disease, but all statistics agree in this, that certain periods particularly and very markedly predispose to it.

During *childhood* (before puberty) insanity is not frequent, but almost all forms of it occur.

Those most generally observed are the various kinds of mental weakness, from deficient mental development to the most profound dementia: this will be completely discussed in the third book (Idiocy).

Next in order of frequency come the maniacal conditions in their various degrees and modes of appearance. Sometimes they appear as persistent or even habitual moderate irritability of character: the child is passionately obstinate, quarrelsome, malignant, and even inclined to immorality; it is a kind of moral insanity, or *folie raisonnante*, entirely corresponding to that of adults (see further on), and may very easily be taken for simple wickedness of disposition. Sometimes it is a state also persistent, but more intense: there is greater restlessness, a constant aimless roving, confusion of the intelligence, perversion of the emotions, with excitement, which (with the greater impairment of the mental development) sometimes passes into profound mental weakness. It is impossible definitely to distinguish this from the versatile form of infantile dementia: these children cannot keep quiet even for a moment; they talk incessantly and incoherently, pay no attention, canstantly wander about, laugh, cry, etc.; a form in which, according to Séguin,[1] with suitable treatment the prognosis is not altogether unfavorable. Sometimes there are longer or shorter attacks of really developed mania.

Romberg ('Deutsche Klinik,' 1851, p. 178) has seen the case of a child 6 years of age attacked by a blind instinct to destroy, whereby it dashed everything to pieces, rushed along the street with a knife in its hand, and could scarcely be held in restraint (subsequent recovery). Indeed, we occasionally observe in still younger children (of from 3 to 4 years of age) attacks of crying, of wild refractoriness, striking, biting, desire to destroy, which last only for a time, and ought to be regarded as true mania. These sometimes alternate with epileptic attacks, with chorea, with stupor, with ecstatic cataleptic states (in which the patients remain for hours or even for days as if quite absorbed, with open eyes, fixed countenance, and peculiar position, sometimes suddenly breaking out in loud cries, etc.), as if there existed here the most manifold intermediate states between epileptic, choreic, somnambulistic, and mentally diseased states. In ordinary chorea, mental disorders are by no means rare; they are sometimes of a slight nature, such as weeping or laughing without motive, obstinacy, temper, forgetfulness, hallucinations: sometimes, on the contrary, there is an increasing state of general mental excitation which passes into maniacal delirium; this, in the height of the excitement, may terminate in death, but it may also end in recovery or in chronic insanity. (Marci, "De L'état mental dans la Chorée;" 'Mém. de. l'Acad. de Méd.,' xxiv., 1, 1860, p. 1.)

The melancholic forms in all their varieties are also observed, though much less frequently, in the years of childhood. If carefully looked for, hypochondria will often be found in children, especially where the parents manifest excessive care of the health of the child. Such children exaggerate their slightest ailments, attentively dwell upon them, and gradually lose all interest in others, just as is seen in the hypochondriasis of adults. The children see that because they are unwell, all their whims are gratified, and half designedly magnify their ills. Simple melancholic states also present themselves, whose foundation is a general feeling of anxiety; and the increase that has been remarked in recent times of cases of suicide in the years of childhood (see Book III., chapter iv.) ought also, to a very great extent, to have its source in the existence of a melancholic disposition. The form of demonomania is also sometimes observed. Monomania, on the other hand, is uncommonly rare, if it exists at all, in the years of childhood. No persistent *ego* is as yet formed in which there could occur a lasting radical change; the mobility of this age does not allow single insane ideas to become persistent and systematized, as at a late period; but, on the other hand, the various primary mental diseases having the character of irritation, when of a certain duration, lead almost certainly to a state of general confusion and dementia: the latter states, as the intelligence of the child is not yet confirmed, rapidly produce arrest of development, when in adults they would rather have caused monomania.

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[1] 'Traitement moral, Hygiène et Education des Idiots,' Paris, 1846, p. 95.

It is a general essential characteristic of the mental disorders of childhood that they limit further mental development. We are then, in the concrete cases, often in doubt as to whether the states of irritation preceding dementia, especially the exalted forms, acted thus limitingly, perhaps destructively, or whether they were the expression of the stage of a cerebral disease which for a long time had tended to persistent change of structure and degeneration, and only at the commencement gave for a short time symptoms of irritation. Hallucinations and fixed delirious ideas are much rarer in children than in adults; the irritative forms affect almost exclusively the sphere of the sentiments and instincts.

As to the more intimate foundation of mental diseases in childhood, they appear to depend in part on an original irritability of the brain (often hereditary), or produced and maintained by injudicious treatment (intimidation, ill-treatment of mind, intellectual over-exertion, dissipation), partly on deeper organic disease originating spontaneously, or after injuries of the head (especially those cases which lead rapidly to dementia); they often proceed from sympathetic irritation of the brain transmitted from the genital organs (onanism, approach and entrance of puberty). Again, chloro-anæmic states from various causes, rapid growth, previous acute diseases (typhus, measles, etc.) are often circumstances of causation. Also after recovery such patients are much disposed to relapse; their mental health continues in danger during the whole of their lives, or they occasionally become, without being actually insane, owing to an unfavorable change in their whole character, useless for the world.

Thurnam enumerates, from statistics of 21,333 cases of insanity, 8 cases of children under 10 years of age. Haslam, Perfect, Esquirol, Spurzheim, Guislain, Zeller, and myself have observed children who suffered under well-marked mania, at the ages of 6, 7, 9, 10, 12, 13 years. Foville (art. "Aliénation," 'Dict. d. Méd..' i., p. 516) relates two cases of this kind. Jördens communicates ('Hufeland's Journal,' vol. iv., p. 224) the remarkable case of a boy who, in consequence of an accident in which some small pieces of glass penetrated into the soles of his feet, became maniacal, and continued so till their removal. Pignoceo ('Osserv. sulle Alien. ment.,' Palermo, 1841, p. 34) mentions a case of mania observed by him in a boy 8 years of age. Morel ('Traité des Maladies mentales,' Paris, 1860, p. 101) mentions the case of a girl, 11 years of age, who had attacks of fury, and attempted to murder her mother and sister. Stoltz ('Med. Jahrb. des Oesterr. Staats,' März, 1844, p. 257) narrates a very interesting case of mania in a child 7 years of age (with loss of speech and serious degeneration of the anterior cerebral lobes). In the several institutions recently erected for the reception of children of weak intellect, there are generally found also more or less special cases of mental disease. In the institution at Mariaberg, in Würtemberg, I have found especially the slighter states of mania (versatile form of mental weakness) represented: we shall enter more minutely into this subject in the chapter on Idiocy. I have recently seen a case of mania connected with epilepsy in a child of 5 years: a case of morbid anxiety and hallucinations, following epilepsy, in a very small girl 14 years old; and a case of mental disorder after typhus fever in a boy 10 years old.

Further contributions to the study of the mental diseases of children are found in West, 'Journal der Kinderkrankheiten,' 1854, xii., 7, 8, p. 1; Rösch, 'Beob. über den Cretinismus,' ii., 1851, p. 81; Delasiauve, 'Ann. Méd. Psych.,' vii., 1855, p. 527; Paulmier, 'Sur les Aff. mentales des Enfants,' Thèse, Paris; Brierre, 'Acad. d. Sciences,' 7 Juin, 1858.

§ 88. Mental diseases are more frequent between the ages of 16 and 25 than in the years of childhood; the great majority, however, of all cases occur during the period of highest maturity—in the time of the corporeal reproduction and mental activity, of marriage and of business, between the ages of 25 and 50. But here even the reports before us are not sufficiently satisfactorily to enable us definitely to determine this question, inasmuch as the greater number of the calculations[1] are based upon the ages of the patients when admitted into the asylum, with which naturally the age of the actual commencement of the disease does not necessarily correspond, or inasmuch as only the number of insane generally of a certain age at present in a country is mentioned, without at the same time giving the total number of individuals of that age in the country.[2] Were we allowed to take as a standard very carefully prepared statistics of a proportionately small number of patients,[3] it would be seen that the most frequent age of the commencement of insanity is between 20 and 30 years, the next between 30 and 40, and that already between 40 and 50 the proportion is remarkably diminished. For the male sex, Zeller[4] gives the period of from 20 to 30, and for the female of from 30 to 40, as that at which insanity most frequently commences, and explains the difference by the fact that in the latter period the bloom of youth begins to fade, and with this the hopes of a fortunate life begin to disappear: this, he thinks, accounts for the greater number of the attacks. The great number of attacks which, according to observation and also to Parchappe's calculations, occur in women of from 40 to 50 years of age, may be connected with the phenomena of involution. Above 50 years of age, insanity is still more frequent in the female sex. In general, from this age onwards the predisposition begins to decline; but, nevertheless, there continues even to the last limits of human life a certain inclination to mental disease, and this at middle life is not greatly diminished: indeed, more exact statistics might show that senile dementia exists to such an extent as to show a large proportion for the last years of life.

Moreover, senile dementia is by no means the sole form of insanity occurring in these years. Esquirol saw two women, the one eighty, the other eighty-four years old, recover from mania. Burrows mentions a case of melancholia and suicide in a person aged eighty-four. I myself have treated a recent case of melancholia in a person eighty years of age, and could narrate many other cases of the same kind.

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[1] See Fuchs, loc. cit., p. 97; Quetelet, p. 443.

[2] For example, Köstlin, loc. cit., p. 8; Ruer, p. 9; and many other statistics.

[3] Zeller, "Second Report on the Efficacy of the Hospital for the Insane at Winnenthal," 'Medic. Correspondenzblatt,' 1840, p. 143.

[4] 'Journal für Psychiatrie,' i., 1, p. 18. In the Vienna Asylum, on the contrary, the maximum period seems to be in men between 30 and 40, and in women between 20 and 30 ('Report,' Vienna, 1858).

§ 89. 4. The question whether *social position* exerts an essential influence on the origin of mental disease cannot, as Fuchs[1] very properly observes, be determined by calculations based on the number of admissions into public asylums, as, naturally, far more patients from the lower classes enter these institutions. The only authority on this subject which we can quote, and which is known to us, is Junius,[2] who states that in England and Wales there are 8500 poor, and only from 1200 to 1300 wealthy persons in public and private asylums. If we consider that there are far more poor than rich, we can easily conclude that the two classes are about equally subject to insanity; nevertheless, it is ordinarily assumed that in the better classes of society, or rather in the wealthy, mental diseases are not so frequent as in the poor. It even appears that the circumstances which act on the one side through greater direct excitation of the cerebral functions, are on the other compensated by hunger, poverty, and drunkenness; while the powerful passions, as love, ambition, jealousy, etc., are alike frequent and originally as powerful in all cases; but where there is least intellectual culture they are most insupportable and act most destructively.

As to a special predisposition which results from certain trades and employments, there is almost nothing to add to the foregoing remarks, viz., that probably those classes who lead a fatiguing and oppressed life of hard manual labor are more frequently attacked by this, as indeed by every other disease, than those who are engaged in the less exhausting mental labor, or who do no work at all. Should, therefore, a marked preponderance exist in certain kinds of employments—for example, in sailors, day laborers, peasants, etc., or amongst merchants, officials, officers, etc.—we must first compare the relative numbers engaged in such professions to the general population; and even then we would not be warranted in concluding that it is the profession, as such, which causes the disposition. Certain callings do not of necessity give rise to certain classes of injurious influences, but they may present more opportunities which the individual may voluntarily resist: for example, butlers and sailors are, from habits of drunkenness, very frequently the subjects of delirium tremens. The assertion of Ferrus, that those professions furnish the greatest number of insane which involve the least amount of bodily exertion, has not been confirmed by any trustworthy statistics.

§ 90. Certain vocations appear to enjoy a remarkable immunity, while in others the disposition to mental disease is considerably increased. Professional beggars, according to Guislain,[3] do not become insane. He ascribes this to the indifference of these people. Female prostitutes in large towns are often attacked by mental disease: misery, destitution, drunkenness, violent passions, syphilitic contagion, etc., ordinarily act together in these cases. The number of cases of insanity occurring amongst young female teachers and governesses is, at all events in England, very great: Bedlam received in 10 years (1846–55) 110 such young women. Here adverse fortune, want of rest, excessive mental exertion, and a disagreeable life may be the chief causes.

Imprisonment brings into simultaneous action many influences which are dangerous to mental health—remorse, longings, concentration on one small circle of ideas; sometimes insufficient nourishment and impure air, want of exercise, etc. Indeed, in all houses of correction, the number of cases of mental disease is relatively greater than in the free population of the same age; but the majority of these cases should certainly not be *entirely* ascribed to the imprisonment—very commonly the individuals are already very strongly predisposed, and frequently the disease is even more than half developed before he is put into prison, inasmuch as during his previous life the criminal has been exposed to the influence of all the causes of insanity. The question still remains unsolved, and probably in the present state of our knowledge it cannot be solved, What is the influence of the various new systems of punishment on the mental health of the criminal? It appears certain that the strict solitary confinement, applied indiscriminately, augments the number of mental affections; that many individuals cannot stand it, and that especially irritable and already half-deranged individuals by it become easily affected with hallucinations, excitement, and insanity; and then frequently, immediately on being transferred to the common prison, they rapidly recover. It appears also that women and uneducated persons do not well bear solitary confinement. Where, however, all regulations are framed entirely with a view to the bodily and mental health of the criminals—where the period of solitary confinement not being too prolonged, sufficient open-air exercise is secured, and where the feelings and ideas of the criminals are suitably excited and perhaps elevated—where, at the same time, attention is given to symptoms of moral perversion of the sentiments; and the first signs of commencing mental disorder are constantly and carefully watched, and the individuality of the prisoner as far as possible considered, the danger to the mental health should not here be very considerable.

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[1] Fuchs, loc. cit., p. 106.

[2] 'Beiträge zur britt. Irrenheilkunde,' p. 8.

[3] 'Leçons orales,' ii., p. 22. Joret ('Mém. de l'Acad. de Méd.,' xiv., p. 346) shows that, on the other hand, female beggars very frequently become insane.

Experience has shown, particularly at Lausanne (Verdeil, 1842) and in Tuscany, that strict solitary confinement is considerably more prejudicial to mental health than general imprisonment. On the other hand, the excellently conducted system of solitary imprisonment employed at Bruchsal does not, according to the report of Füsslin, show any injurious influence on the mental health of the prisoners. Also, in the model prison of Pentonville (London), according to Parrish, only 13 cases of insanity occur amongst every 1000 prisoners. Solitary confinement, however, does not extend there for longer than eighteen months. Solitary confinement particularly disposes to hallucinations of hearing; this appears to result from the patients soliloquizing and believing that they hear others speaking.

From the very interesting communications of Delbrück, it would appear that mental disease amongst criminals is more frequent in those who have committed crimes from passionate motives than in those who have committed crimes against property. It is most frequent after murder and mortal injury than after rape and arson. Amongst criminals, two chief categories of delirium may be distinguished:—1st, cases where a solitary great crime, such as murder, with its consequences, has subsequently produced a mental disorder: 2d, where habitual criminals become insane, owing to predisposition and the effects of time. In the first case, the single criminal act is evidently the essential cause of the insanity; it determines the form of the disease and the subject of the delirium. In the second case, the entire habits of life and the customs of the prison give a peculiar impress to the disease. Insanity is generally developed during the first years of imprisonment in solitary confinement in those already distinctly predisposed; it often shows itself even in the first months. In the delirious conceptions, the attempt to palliate the crime or entirely to deny it is often seen, or to picture to themselves a speedy deliverance. Mention of the crime usually evokes, in those of the first category, passionate excitement or anxiety, with increase of the delirious expressions. Refusing to work, excesses, refractoriness are naturally of daily occurrence amongst these insane prisoners.

Ferrus (1850) attempted to adapt the various systems of punishment to the different classes of criminals. He divides these into three categories:—1st. Intelligent, energetic, and totally corrupt individuals—unimprovable scoundrels. 2d.

Such as possess a moderate degree of intelligence, a little developed sense of duty —who are indifferent to good and evil, and regardless of shame and disgrace—who have no opposition to bestow to their evil inclinations. 3d. Particularly dull individuals, who cannot estimate the significance of their deeds, and often even the cause of their imprisonment. Those of the first category should, throughout, be subjected to solitary confinement; those of the second require rather "Auburn's System," with quiet and solitary confinement during the night; those of the third cannot at all bear solitary confinement. The application of such a classification must be very difficult in practice.

On this subject, see Würth 'Die neuesten Fortschritte des Gefängnisswesens,' Wien, 1844; Lélut, 'De l'Emprisonnement cellulaire, etc.;' Moreau, Christophe, 'Annal. Méd. Psychol.,' 1843, vol. ii.; Joret, "De la Folie dans la régime pénitentiaire," 'Mém. de l'Acad. de Méd.,' xiv., 1849, p. 319 (contains many interesting remarks upon female prisoners and their insanity and facts concerning the "silent system"); Ferrus, 'Des Prisonniers, de l'Emprisonnement, etc.,' Paris, 1850; Füsslin, 'Die Einzelhaft,' etc., Heidelberg, 1855; Delbrück, 'Zeitschr. f. Psychiatrie,' 1854, xi., p. 57; xiv., p. 375; Pietra Santa, 'Acad. de Médecine,' 23 Januar and 17 April, 1855; Scholz, 'Zeitschr. der k. k. Gesells. der Aerzte zu Wien,' 1856, xii., p. 635; the reports of Mittermaier in 'Archiv des Criminalrechts.'

§ 91. 5. We now mention the question so often and so variously discussed, of *the influence of the seasons of the year* in originating insanity, merely to call attention once more to the fallaciousness of many statistical reports. From the circumstance that, according to Esquirol's tables, most admissions into several asylums took place during the summer months (May to July), fewer were admitted during spring and autumn, and fewest in winter, it has been concluded that insanity originates most frequently in summer. This is a very erroneous conclusion; for what asylum is so fortunate as to procure a majority of its cases within two or even three months from the commencement of the disease?[1] There exists no constant relation between the commencement of insanity and the admission into an asylum, and we are at perfect liberty to frame conjectures as to when these cases admitted in summer really had their commencement, whether the greater difficulty of travelling in winter has any effect on the admissions, etc. Statisticians speak also of the influence of the seasons of the year on the single forms of insanity. Esquirol has asserted, and Jacobi has proved the fact in 181 cases, that in winter the attacks of mania are most seldom—that they are more frequent in summer, and especially in spring.

With regard to the influence of *the moon*, if not on the origin, at least in aggravating and modifying insanity in its course. This influence is denied by the great majority of medical psychologists, and that pathology is derided which, for example, would ascribe the periodical return of the attacks of mania to the influence of the stars, because they coincide with certain regular changes in the heavens. Because of this the influence of the moon's light upon the insane should not be denied, for even in healthy persons the light of the moon can peculiarly affect the course of the thoughts, giving rise, for example, to ardent and elegiac ideas readily disposing to sentimental poetry. In the insane, who are more powerfully and differently affected than the healthy by various sensible impressions, this may, with the absence of sleep, the view of the full and brilliant moon, the uncertain light, the fleeting shadows of the clouds, combined with the stillness of the night, or the confused murmurs which then float through the asylum, indeed, create still greater impressions, more violent emotions, various hallucinations, etc. Esquirol prevented the agitation which was regularly remarked in several patients at the time of the full moon by hanging curtains on the windows.[1]

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[1] Winnenthal, an institution solely devoted to curable cases, received in 6 years 133 cases of 6 months' standing, and 150 of even longer duration. Zeller 'Medic. Correspondenzblatt,' Juli, 1840, p. 143.

SECTION II.—*Special Predisposing Causes.*

§ 92. 1. *Hereditary Predisposition.* — Statistical investigations strengthen very remarkably the opinion generally held by physicians and the laity, that in the greater number of cases of insanity a hereditary predisposition lies at the bottom of the malady; and I believe that we might, without hesitation, affirm that there is really no circumstance more powerful than this. Doubts have recently been raised as to whether hereditary predisposition plays a more important part in insanity than in any other disease, or whether it is merely most sought for in that disease, and therefore most frequently found.[2] It is quite possible that further advances may show that hereditary predisposition exercises quite as great an influence in many other diseases, especially when more positive data are once obtained concerning the transformation and transmission of pathological states. At present, we can claim for tuberculosis alone an influence of hereditary circumstances in some degree equal to that exhibited by mental diseases.

In details, however, the reports differ very considerably, both according to the experiences of the observer, and according to the rank of the individuals examined and the locality in which the investigation took place.

The enormous proportion given by Burrows (hereditary predisposition in $\frac{6}{7}$ths of the cases), or the estimate of Moreau, that in $\frac{9}{10}$ths of the cases hereditary influences have been at work, are proved by no reliable statistics. In the following paragraphs, we have united the results of a great number of reports of German, French, and English asylums.

Jacobi, in 220 cases (of mania) found hereditary predisposition present in only about $\frac{1}{6}$th; Bergmann (1838), whose investigations were limited to the statistics of one year, detected direct hereditary predisposition in $\frac{1}{6}$th, direct and indirect together in $\frac{1}{3}$d, of the cases. Hagen, in 187 cases, found family disposition in $\frac{1}{3}$d, direct hereditary disposition (father and mother mentally diseased) in $\frac{1}{8}$th–$\frac{1}{7}$th. Flemming found it, at Sachsenberg, in the proportion of over $\frac{1}{6}$th; Damerow, at Halle, in 773 admissions, found it in $\frac{1}{4}$th. Martini, in Leubus, had in twenty-five years amongst the higher ranks nearly $\frac{1}{3}$d ($\frac{3}{10}$ths), amongst the middle and laboring classes somewhat over $\frac{1}{4}$th, "officially constituted hereditary cases." At Colditz, amongst 77 admissions, $\frac{2}{5}$ths of the cases were proved to be directly hereditary. Hereditary predisposition appears, on the contrary, to exist to a remarkably small extent in the lunatic asylum of Vienna (1853–56).

In Bicêtre and the Salpêtrière, hereditary predisposition was, according to an old compilation (8272 cases), present only in $\frac{1}{11}$th; in the Marseilles asylum, Lautard proved it in only about $\frac{1}{15}$th. Esquirol found it in the poor in more than $\frac{1}{4}$th, in the rich in about $\frac{3}{5}$ths; Parchappe, in somewhere over $\frac{1}{7}$th; Guislain, in over $\frac{1}{4}$th; Brierre, in almost half; Dagonet, in Stephansfeld (in three statistics together), in about $\frac{1}{4}$th of the cases.

Webster (1848) found at Bedlam, in 1798 patients, hereditary predisposition in almost $\frac{1}{3}$d oftener in females; Skae, in Edinburgh (1851–52), in 248 admissions, a little over $\frac{1}{3}$d. In a large number from English and Irish asylums, collected by Jarvis (1850), it was found, in 44,717 men, only in $\frac{1}{25}$th; in 43,091 women, only in $\frac{1}{23}$d. At Bloomingdale Asylum (New York), from 1841–9, among 1841 patients, there were 118 men whose fathers had been mentally diseased, and 33 who had some other relative insane; 89 women whose fathers had been insane, and 67 who had other relatives insane (together $\frac{1}{6}$th).

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[1] Loc. cit , p. 568.

[2] Neumann, 'Psychiatrie,' 1859, p. 141.

Bini, in Florence, found hereditary predisposition present in about $\frac{1}{4}$ of the cases. It will be remarked that very large statistics (Bicétre, Jarvis), which probably could only be made with material less carefully gathered, give a very small proportion; while those from less extensive but well-investigated spheres of observation prove it to be much more frequent.

The still considerable differences presented by these figures might depend on the predominance of certain circumstances, which, being very important, ought to be more closely considered.

(1) Congenital disposition to insanity is more frequent where marriages always take place amongst a limited circle of families, or even in the same families. On the other hand, the transmission is diminished by constant crossing with strange blood. The first circumstance is very evident amongst the aristocracy of certain countries, also in the Jewish population; and it is especially striking among the English Quakers. In the Asylum at York, which is destined to this religious sect, direct hereditary predisposition can be traced in one-third of the patients, indirect (mental disease in other relatives) in another sixth; therefore, both together, in one-half of the cases.[1] Progressive uninterrupted transmission leads finally to the special degenerative forms (Morel)—to imbecility and idiocy, and with the diminished capability of propagation of individuals of the latter kind, the race gradually becomes extinct.[2]

(2) There exist further considerable differences in the statistics, inasmuch as sometimes only the cases where the parents or grandparents have been insane are included, while at others the assumption of family predisposition is made wherever insanity is present in any near relative (uncles—blood relatives—cousins). The latter appears to be the more correct view, when we consider that almost always, besides hereditary disposition, still further causes are required for the outbreak of insanity; that, therefore, the present disposition may remain dormant from want of such further causes in the nearest relatives. That the disposition exists, however, can be plainly proven by the insanity of other relatives.

(3) We do well not to conceive of a family predisposition to mental diseases as limited to these alone, but rather to consider it as a disposition to serious cerebral and nervous diseases generally. It is not at all rare to see in a family certain members suffering from insanity, others from epilepsy, severe spinal irritation, hysteria, neuralgia, etc. Rush,[3] for examples, relates the case of a mechanic who had two attacks of insanity—the latter of which ended his life. All his six children suffered from headache, but none presented the least trace of insanity. In this and similar cases, which are by no means rare, the disposition appears to be able to manifest itself in various forms, and occasionally even we see through several generations pathological states of the nervous system which at first gradually increase, and end by passing into insanity proper.

(4) An original anomalous disposition is also not to be denied in those cases where one or both parents, although not suffering under insanity, present a striking eccentricity or extravagance of character, and a morbid exaltation of the passions, which strongly approach to insanity; in those cases also where several instances of suicide have occurred in near relatives. For suicide, in many cases a symptom of developed serious mental disease, is in many others at least the evidence of a weariness of life resulting from a morbid state of the organism, and which is to be numbered amongst the primary forms of insanity, melan-

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[1] Julius, 'Beitr. z. britt. Irrenheilkunde,' p. 281.

[2] Morel, "Des Caractères de l'Hérédité dans les Maladies nerveuses," 'Archives générales de Méd.,' 1859, September.

[3] 'Med. Unters. über d. Seelenkrankh.,' translated by König, Leipzig, 1825, p. 36.

cholia; and experience has frequently shown that the inclination to suicide, which often comes on in all the members of a family at the same age, communicates itself by hereditary descent. We will also easily comprehend how that weakness of character and excessive passionateness by which this hereditary tendency is so frequently shown, may, by the co-operation of unfavorable circumstances on individuals so affected, beget criminal actions. In like manner, we occasionally see in certain families insanity, suicide, crime, the result of the intimate connection of certain dispositions of character combined with each other, alternating in a deeply deplorable manner.

Lautard (Oppenheim, 'Zeitschrift,' vol. xxi., p. 16) relates the following case: A husband and his wife, the former 42, the latter 36 years of age, became insane and committed suicide, the one by strangulation, the other by drowning. They left behind them three children. The eldest daughter poisoned herself at the age of 24, after having lived for a long time in prostitution. The son, accused of assassination, strangled himself at the age of 21. The youngest daughter, in the sixth month of pregnancy, threw herself from a roof. She left behind her a son, who, although very young, had been several times in prison, and at last went on an adventure to Egypt.

Miss M—, of Ortava, æt. 30, of an old noble Spanish family, never contaminated by any misalliance, became insane. The disease presented the form of periodical changes of melancholia and mania, with a tendency to suicide. Her grandfather committed suicide in his fiftieth year. Of his three sons, two spontaneously ended their lives in the years of their youth from being crossed in love. The third, the father of Miss M—, showed such oddities and whims that he was considered almost insane. His son (the only brother of the young lady), when 20 years of age, threw himself into the sea, because he doubted the fidelity of his lady-love. His sister, although living in the most favorable relations of life, showed so sad a disposition that her friends prophesied for her the same fate.[1]

But sometimes also we find in those families where individual members suffer from insanity, others of remarkably superior intelligence with or without eccentricities. I could name two such examples from among the great scientific celebrities of our own time. It is not improbable that great excitability of the cerebral processes, and even those mental peculiarities which in certain individuals run into extravagance and eccentricity, may in others, under favorable external circumstances and perfect physical health, appear in the form of increased activity and energy of intellect, and originality of thought. Moreau ('Psychologie morbide,' Paris, 1859) has recently brought forward this question and pressed it beyond its limits.

The entire assumption that hereditary disposition generally plays an important part in the etiology of insanity has been attacked as incorrect by Schlager ('Zeitschrift der k. k. Gesells. der Aerzte zu Wien,' 1860, Nos. 34, 35). He very properly calls attention to the inconsiderate manner in which occasionally the hereditary predisposition is proved by physicians. He confines himself to the most limited signification of the word hereditariness, and only admits such cases as hereditary where before or at the time of procreation one of the parents was mentally diseased. According to this principle, he found hereditary predisposition present in only four per cent of the cases. That this critic overshoots the mark at once becomes evident, if we substitute the question of family disposition for that of hereditary predisposition. In page 94 of the 'Wiener Bericht' (Vienna, 1858) there are also found sufficient grounds for the small number of hereditary cases admitted into the asylum there.

§ 93. Esquirol assumed, and Baillarger[2] has proved by the statistics of 453 cases, that insanity is more frequently transmitted (indeed, about one-third oftener) from the mother than from the father to the children. He found, at the same time, that when the mother was insane more of the children became so, and that the transmission of insanity to sons is as frequently from the mother as from the father: on the contrary, in the case of daughters the disposition to insanity is inherited twice as frequently from the mother as from the father. It follows from this, that through insanity of the mother the children generally are more endangered than through insanity of the father, and also that it is more especially the children of the female sex who inherit this unfavorable disposition.

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[1] 'Anal. Méd. Psychol.,' Mai, 1844, p. 389.

[2] "Rech. statist. sur l'Hérédité de la Folie," 'Annal. Méd. Psych.,' Mai, 1844, p. 330.

Moreover, experience shows that children who are born before the period of manifestation of the mental disease are less frequently attacked than those born after the parents have become insane. Occasionally, therefore, cases also present themselves where the children become affected before the parents, because a number of causes favorable to the outbreak have acted on them, while the parents, more fortunate, resist to a greater age these further influences.

Sometimes hereditary mental disorders present essentially the same character in parents and children, and occasionally also in a whole line of brothers and sisters, appearing at the same age and terminating in the same manner—as for example, by suicide. Frequently, however, this is not the case; the psychical disorder manifests itself in different ways, partly dependent on external circumstances. Morel, who has recently investigated this subject in a comprehensive and judicious manner,[1] mentions the following as the leading modes of manifestation of hereditary mental disorder: (1) Such as appear rather in the form of extreme exaggeration of the nervous temperament of the parents. (2) Those in which the disorder principally shows itself in evil desires, eccentricities, perverseness of every kind, the intelligence being well preserved, the disease showing itself far more by senseless actions than by insane thoughts and speech. (3) Those in which there already exists an increasing limitation of the intellectual activity, mental dulness and weakness: very commonly, also, it is with great difficulty that the individuals affected can direct their energies to useful and moral ends. Frequently there is found in these cases all sorts of evil inclinations, and occasionally even smallness of the skull and sterility. (4) Lastly—Dementia proper, from imbecility to the highest degree of idiocy and cretinism: these individuals have often rudimentary genital organs, are deaf and dumb, clubfooted, etc. All these various pathological states are (according to Morel) branches of the same trunk in certain families. The disposition may disappear by constantly renewing the blood by marriage with perfectly healthy families; it is increased and developed to the most degenerate forms by further intermarriages, by drunkenness of fathers, etc. In this statement there is a great deal of truth: every physician who directs his attention to this subject will discover numerous examples of it, not only in the asylums, but far more frequently in ordinary life, which cannot well be definitely demonstrated by statistics. The deterioration of a whole race, as well as the special degeneration of a particular patient, generally occurs gradually and progressively. For a long time the hereditary influence can be found only in certain members of a family; besides, others often render themselves conspicuous by their uncommon mental powers, and the really degenerate character of the disease may not as yet manifest itself in those who are attacked. It appears, nevertheless, that hereditary influences may be highly and quickly increased by drunkenness, by disease, and, in short, by various intercurrent disorders of the parents at the time of procreation; perhaps also by certain external influences, especially of an endemic nature. Thus the severe forms may originate at once, and several or all the children procreated under such circumstances may suffer.

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[1] 'Traité des Dégénérescences de l'Espèce humaine,' Paris, 1853; 'Traité des Maladies mentales,' Paris, 1860, p. 513; and the above-mentioned work in the Archives, 1859.

Of the general diagnostic characters of hereditary mental disease the following may (according to Morel) be considered the chief:—This kind of insanity generally breaks out suddenly from insignificant external causes: it shows itself often in marked emotional insanity, the intelligence remaining relatively intact; there are considerable remissions and exacerbations. Strong hallucinations and paralytic dementia are somewhat rare; while, on the other hand, there exists a strong tendency to delirious conceptions. Although still in a condition of relative health, such individuals render themselves remarkable by their great emotional excitement, and, therefore, their greater dependence on the influence of the external world; frequently, by all kinds of originalities and eccentricities; and occasionally, along with intellectual and emotional perversions, we find them endowed with certain one-sided extraordinary gifts or accomplishments.

§ 94. 2. *Education.*—The direction which the understanding and will of an individual receives in childhood exercises a decided influence on his whole future life. The moral and intellectual influence of the parents upon the child is, therefore, to be mentioned next to hereditary influence as of the utmost importance. With Ideler, we are of opinion that there are cases of so-called hereditary insanity which can be traced, not so much to the transmission of organic disposition as to a subsequent psychical continuation of peculiarities of character, inasmuch as certain eccentricities, odd and peculiar views and maxims, have been presented to the child for imitation. Influences of this nature are, from the first, decidedly adverse to the development of a healthy soul-life in harmony with the external world. Thus, in the same manner as hysteria is transmitted from the mother to the daughter, so are psychical perversions transmitted to their children from insane or silly parents, and passionateness and evil inclinations are impressed upon the youthful mind. To this circumstance, not unfrequently, also, may be traced the fact that family life is often disordered, and thereby the co-operation of those favorable circumstances so necessary to the harmonious development of the infantile character is disturbed.

Amongst the special errors of education may be mentioned, in the first instance, premature mental exertion. This, with the undue precocity of the various mental processes thereby necessitated, proportionately retards and hinders physical development; the brain is overwrought, and the germs of future weakness and disease are surely laid. Still more serious, however, are perverse and unfavorable influences on the sensation and will of the child. There are cases, for example, where, by undue severity, by the cold and repulsive demeanor of parents towards children—by protracted grief, humiliation, or harshness of sentiment—the development of naturally benevolent dispositions is hindered, and the gentler feelings stifled. Thereby there is thus early implanted in the individual a painful opposition to the external world. This is especially apparent in certain strong benevolent natures, whose warm and generous inclinations instinctively seek a return of affectionate sympathy, by the absence whereof they are necessitated to take refuge in an imaginary world, and so a pernicious imaginative tendency is awakened and nourished. Finally, still more destructive to the child is that over-indulgence on the part of parents, which curbs not the wayward development of every desire and inclination, which incapacitates the child for enduring suffering or pain, which renders him incapable of self-control or resignation, and develops, not a strong and hardy nature, but a weak, soft character which cannot stand the test; for sooner or later the rude encounter of life must be met, and, unable to support himself under the fierce assault, he falls a victim to all the agitating emotions and health-disturbing influences of violent passion.

See, in the following book, the case mentioned by Pinel ("Traité de l'Aliénation mentale," p. 159).

§ 95. 3. *Mental and physical constitution.*—Our decision as to the physical constitution is generally founded on certain striking anatomical differences amongst individuals, especially in relation to the development of the muscular system. We must renounce the attempt to discover any predisposition to mental diseases in such differences; for daily observation shows that the weak and the muscular, and likewise dry and moist constitutions, are liable to the attack of insanity in nearly equal proportions. On the other hand, there is another constitution, sometimes congenital, sometimes acquired, which we cannot recognize anatomically, but which physiology permits us to appreciate, which materially predisposes to mental disease. It is the so-called nervous constitution—that relation of the central organ which we may generally define as a disproportion between reaction and irritation. This state may be confined to certain parts of the central nervous system; for example, in the spinal cord or in the brain. Very frequently it is observed equally in all nervous acts. In the sensory nervous system, hyperæsthesias of various kinds are observed; great sensibility to impressions of temperature; spontaneous changes in the sensation of heat and cold; but especially the presence of numerous sympathetic sensations, and great disposition to pain. The motory nervous acts are characterized by the withdrawal of all force, the individual being easily exhausted; by a disposition to sudden extensive, but only slightly, energetic movements; by increased tendency to convulsions. In the mental sphere we observe, corresponding to the analogous states of sensation and motion, great mental sensibility—susceptibility to mental pain, and to that condition in which every thought becomes an emotion. Hence the rapid alternations in self-consciousness and volition, leading on the one side to weakness and inconsistency of will, and on the other want of energy, with abrupt and changeable plans. The intellect at the same time often presents the same condition. This is seen in those who, even in childhood, are very irritable. The intellect is disproportionately developed, and constantly presents something unstable. In the case of lively imaginative minds which, however, are deficient in depth and endurance, incapable of continuous exertion, because they address themselves seriously to no single vocation—in the case of those imaginative second-rate but quaint musicians and poets, or those misguided universal geniuses, who, with a certain vivacity and variety of thought, never can find composure or repose for any arduous work—should such individuals in the long run fall into insanity, we find in all such cases a confirmation of the doctrine, that only he who has had a correct understanding can lose it, while, indeed, a really sound development and cultivation of the intellect is in no respect favorable, but, on the contrary, is decidedly unfavorable to the approach of insanity.

In the mental sphere, the more immediate consequences, the external modes of appearance, of too great irritability, of the *irritable weakness* (see p. 39), are

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very various. Many of these appearances, however, may primarily be traced to a great tendency to mental pain. Where there exists a very extensive sphere of agitation, the mental equilibrium is more easily disturbed, the *ego* more easily affected; from whence chiefly results the greater susceptibility of those individuals who behave sometimes impatiently, are excited, intolerant of contradiction, aggressive—at other times, evading all mental impressions, they reservedly concentrate their thoughts upon themselves. Such individuals, incapable of satisfying their emotional cravings by external actions, dwell in the realms of imagination. To them the world appears common, and they fancy themselves too good and too noble for its pursuits. Thus are produced various modes of manifestation of the same fundamental state, which nevertheless agree generally in this—that the disproportion which exists between the reaction and the impression appears in the higher degrees as extravagance and excess. The result is, that the individual, with his whims and unusual modes of reaction, steps out of the ordinary beaten path of humanity, and passes in the world as an original, singular man. Such individuals sometimes exhibit a painful degree of scrupulousness and trifling pedantry (frequently this is associated with mechanical talent). At other times they are remarkable for frivolity, irregularity, uncertainty of thought and action—sometimes for their coolness and apathy, or even for their eccentric ardor, irresolution, or audacity. They exhibit striking peculiarities—at one time lowness of spirits, at another time enthusiasm; but they are always changeable, always violent. The mode of reaction differs in such cases from that of the average of mankind, and therefore seems freakish. In those passionate, eccentric, often inwardly discordant and disunited natures, bodily disorder of every description may become truly dangerous. They often bring to rapid development the existing latent germ of mental disease.

§ 96. These mental dispositions are undoubtedly congenital and inherited; they are, so to speak, not unfrequently the media of the hereditary predisposition to insanity, and are early evinced in the mental life of the child by peculiar directions of taste, uncommon sensibility, volatility of the inclinations, and little disposition for study; so that such individuals are frequently, from the very first, objects of solicitude and grief to their parents and teachers, while they are occasionally the objects of injudicious wonder. Many of our observations, based on the confessions of patients and convalescents, coincide with the statements of Foderi,[1] that in the subjects of such dispositions there is frequently a premature development of the sexual passion, and consequent spontaneously developed onanism, together with early hæmorrhoidal disease (the latter probably in consequence of the irritation of the genital organs).

Although it may be doubted whether such circumstances act as causes of those psychical peculiarities, it is nevertheles worthy of careful consideration that even in cases where there is no such congenital disposition, we very frequently find the same psychical anomalies developed in later years in consequence of structural disease of the genital organs.[2] It need scarcely be stated here that hysteria, which presents that condition of the nervous process chiefly in the spinal, but frequently also in the cerebral system, often arises from disorder of the sexual processes.

Other diseases, especially all considerable losses of fluids, and the states of anæmia and exhaustion resulting therefrom, are often recognizable as causes of the acquired nervous constitution. It appears at other times that local hyperæsthesia, prolonged irritation of any particular nerve,[3] may produce such chronic states of irritation of the central organs—as in acute tetanus. In the central organs themselves there may also exist localized inflammations, and causes of the disease which evade anatomical demonstration, but from which we may approximately ascertain the seat, perhaps, through the sensibility of certain parts of the spine, headache (affection of the fifth pair of nerves), etc.

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[1] 'Essai médico-légal sur les diverses espèces de Folie, etc.' Strasb., 1832.

[2] Compare the 115 cases of Lallemand ('Des Pertes séminales,' Paris, 1836–42). It is astonishing how, almost without exception, these patients present a change of their psychical condition in the direction I have here indicated.

[3] Lotze, 'Allgem. Pathologie.'

In like manner, those depressing mental impressions, shock, grief, etc., which are so frequently met with as causes of the nervous constitution, act by provoking a violent irritation, instantaneous or persistent, of a more or less considerable portion of the brain—if, indeed, they have not already (see § 99) indirectly produced a secondary cerebral affection.

The cases are proportionately rare, but cannot be questioned, where such mental anomalies, after being developed, pass slowly and gradually without further appreciable injurious influence into actual insanity. Much more commonly the nervous constitution is but a predisposing circumstance, besides which something else is necessary—a real cause, either a physical disease or a moral influence—in order that the simple disposition may become actual disorder—that the moderate mental aberration may pass into profound insanity, may become an actual cerebral disease.

After what has been said in the two preceding paragraphs, we may dispense with the further discussion of the so-called *temperaments* in so far as they dispose to mental diseases. In common with many esteemed investigators (Gall, Georget, Lotze, etc.), we cannot accord any real importance to those four classes of temperaments taken from the ancient humeral pathology—a division which can scarcely be adhered to, as it has never been empirically proved and is of little practical use.

Besides the circumstances which have been spoken of, there are still a number of serious chronic diseases which ought to be considered as bodily predisposing causes. As has been already remarked, mental diseases originate under the influence of several unfavorable co-operating causes, that, in certain cases, such a cerebral disease may appear under the influence of certain given circumstances which may be traced to the previous deterioration of the general health inconsequence of chronic disease in some other organ. We must be careful, however, not to assume the existence of severe chronic general diseases merely from certain slight or obscure symptoms, and in the absence of necessary pathological proof, because such assumptions frequently lead to superfluous and even violent treatment. To enumerate all these diseases would be to repeat the entire special pathology. The most important of them will be considered, and their mode of action in the production of insanity pointed out, in the chapter on Physical Causes. At present, we shall merely once more call to mind the intimate relation which exists between the predisposing circumstances and those which, strictly speaking, are circumstances of causation.

That a formerly existing insanity, though now removed, predisposes to a return of the disease, need not be further discussed. Concerning relapse, see the chapter on Prognosis.

CHAPTER III.

THE CAUSES OF INSANITY (CONTINUED).

SECTION I.—*Mode of Action of Causes.*

§ 97. ALTHOUGH in the majority of cases mental diseases are produced by the co-operation of several, it may be of many, unfavorable circumstances, there are, however, ordinarily several amongst these circumstances which appear so especially important and effectual as to merit the designation of special causes; or, in other words, cases of illness present themselves which can only be ascribed to the influence of a single unfavorable relation. In the discussion of these *more intimate causes,* we have to consider, on the one hand, certain external injuries; on the other, the adverse influence of health-destroying habits; and, again certain abnormal organic states which can be the immediate cause of such diseases of the brain. It would, indeed, be impossible to state with absolute certainty the mode in which all these causes act; but if, on the one hand, we consider the nature of the causes as they are mentioned further on, and, on the other, the comparatively little which is known regarding the special lesion of the brain in insanity—moreover, if we compare with these two series of facts which we learn by observation of the patients during the period when the causes act on them, we will, with our present knowledge and comprehension, arrive at the following conclusions:—In many cases the cerebral affection in insanity is not palpable; it depends either on simple nervous irritation, or on slight changes of nutrition which as yet cannot be more definitely defined. Often, then, the causes of insanity must act in such a manner that even such impalpable cerebral disorders can be proved. In many other cases, insanity is a symptom of cerebral disease, of which we do not yet know the minute anatomical changes of the first stage, but which, at a later period, leads to atrophy of the brain, to chronic hydrocephalus: these must be disorders of nutrition, whose inflammatory nature is at least doubtful. In others, however, insanity really depends on fixed inflammatory processes in the cranial cavity, which are known to us as well in the early stages as in their results. Finally, disorders of the circulation within the cranium appear to play an important part in the origin of insanity: in the one case there is anæmia (originating in various ways—see further on); in the other, hyperæmia of the brain; and, lastly, kindred states which may exist as part appearances and essential elements of inflammatory processes, as well as alone and independent of any inflammatory state.

We can in general trace the influence of the causes of insanity on the origin of these various categories of morbid events, but we will be compelled to confess that this gives us but a limited view of the special mode of action of the causes generally, and that there are only a few of these causes of which we know with special certainty the mode in which they produce such changes of the brain as have been enumerated in disease. It is the same here as in other pathology, where, as a rule, the mediators between the causes on the one hand and the effects on the other are always what we know least about.

I cannot now attribute so much importance to the hyperæmias within the cranium, as I did in the first edition of this work; although, since its publication, experienced medical psychologists have assented to the opinion there stated. But neither should the hyperæmias be undervalued as pathogenetic circumstances, to which at present there exists too great an inclination in German medicine. It is very evident that, in many cases, active cerebral congestions precede and accompany the paroxysms; for example, of mania, of melancholia, of hysteria; these congestions can naturally also present themselves in quite anæmic individuals. Hyperæmia of the brain, which can scarcely be considered entirely as a post-mortem phenomenon, is an anatomical condition very commonly observed in recent cases of insanity: stagnation, slowness of the circulation, with consequent more venous congestion, may result from diminished cardiac power, from organic changes in the cerebral arteries. Mechanical stasis in the veins not unfrequently shows itself in recent cases of disease, at least in the countenance by a general slight cyanotic livid color, dark color of the neighborhood of the eyes and point of the nose, redness, and sometimes even ecchymosis of the conjunctiva, prominence of the veins of the temple, neck, etc. The cause of this congestion of the venous system may be heart-disease, functional weakness of the left heart, in overfulness of the right heart, resulting from prolonged incomplete respiration. The depressing emotions when long-continued, grief or anxiety, may, it appears, in this way cause slowness of the respiration, through which the lesser circulation is retarded, and venous congestion follows.

In the same manner may be explained the oppression felt at the chest (sighing) and the smallness of the pulse, the tendency of the extremities to become cold, the dark appearance of the countenance, the gray circles round the eyes observed in individuals so affected. But these emotions have still other and not less important effects, of which impairment of the general nutrition, sleeplessness, and diminution of the blood-forming powers are the chief.

We do not believe that general simple hyperæmia of the brain alone, without the co-operation of other more essential, especially predisposing circumstances, causes mental disease. We must admit, on the other hand, that when these circumstances exist, this condition co-operates to a great extent in the production of the disease.

Where well-marked and *general plethora exists*, the congestive states in the period of their first commencement, or in more transitory mental disorders, may justify the abstraction of blood. A plethoric young man, who had high hopes of obtaining a situation, was taken on probation; his services, however, were not accepted. He learnt the result at night; till then he had been quite well and cheerful, but all at once he fell into a state of great depression; he passed a sleepless night—he could not remain in bed, but spent the greater part of the night sitting at an open window. Slight delirium, in which he imagined he was hunting, set in; soon violent headache and general illness came on.

Next morning, the whole head was of a dark-red color and very hot; the eyes injected, the pulse small, quick, and very irregular; there was also violent headache, great agitation, foul tongue, and inclination to vomit. Patient bled to one pound. This was immediately followed by rapid improvement of all the symptoms; the patient declared that, after the bleeding, things suddenly ceased to have the heavy and sad appearance which they formerly wore, and that he could profit by advice. In the afternoon, epistaxis spontaneously set in, which was followed by complete recovery.

SECTION II.—*Psychical Causes.*

§ 98. We have now to discuss in detail the principal *immediate* causes of mental diseases. They are so numerous—their mode of action, of which often little is known, is so various, that it is impossible to form a logical classification of them; therefore we will merely arrange them in groups according to their importance and significance.

The *psychical causes* are, in our opinion, the most frequent and the most fertile sources of insanity, as well in regard to preparation as especially and principally the immediate excitation of the disease. We recognize, meanwhile, that this view rests not only on statistics,[1] but also on the collective impression of many observations; but if we could fully appreciate the psychical causes, which are often concealed in their most important details, this impression would probably be a still stronger one.

Under psychical causes, we are before all to understand former passionate and emotional states. It is an absolute fact that intellectual exertion, unaccompanied by emotional excitement or other further powerful causes (for example, all kinds of excesses, sleeplessness, artificial excitation by excitants), leads only in the rarest cases to insanity.

The contrary is undoubtedly the case with the continuous or violent emotions, of which disagreeable, adverse, or depressive states of emotion merit special attention; while immoderate joy alone has handed over to the asylums very few, if any, patients. Pinel, that model medical psychologist for all times, was so convinced of the truth of this, that the first question which he addressed to a new patient was always, "Have you suffered vexation, grief, or reverse of fortune?"[2] and nowadays it is quite as rare as it was then to receive a negative answer to this question. In individual cases these painful emotional states may vary very much in their nature and in their causes: sometimes it is sudden anger—shock[3] or grief excited by injury, loss of fortune, a rude interference with the modesty, a sudden death, etc.; sometimes it is the result of the slow gnawings of disappointed ambition on the mind, regret on account of certain unjust actions, domestic affliction, unfortunate love, jealousy, error, forced sojourn in inadequate circumstances, or any other injured sentiment. In every case there are influences which, through intense disturbance of the mass of ideas of the *ego*, cause a mournful division in consciousness, and we always see the most powerful effects where the wishes and hopes have been for a long time concentrated upon a certain object. Where the individual has made certain things indispensable to his life, and when these are forcibly withdrawn, the passage of the ideas into efforts is cut off, and accordingly a gap in the *ego* and a violent internal strife results.

The effect of these emotions in the production of insanity is to be judged of according to the strength of the first shock, according to its longer or shorter duration, but more especially according to the present mental disposition of the patient. Then, again, the degree of violence of the first impression, its more rapid cessation or prolonged reverberation, depends to a great extent on this disposition. In many cases, the fact that such long and violent states of passion or ill-humor could arise is of itself a sign of this (already spoken of in § 95) psychical peculiarity; and it was the special original irritability and passionateness of the individual—the already existing disposition to emotions, and to sudden dimming of the consciousness, which from a period dating even from the years of childhood could often be pointed to as the source of mental sickness, often as the cause of the subsequent habits and actions of the patient. This disposition may be manifested by disorderly conduct, idleness, desire for fashionable follies, love of pleasure, and political extravagance; or by religious enthusiasm and asceticism, by misplaced friendship and love; and, finally, by the moral bankruptcy of a life lavished in follies. On the form which the emotion receives from the external causes, very little rarely depends: each race, each position in life, each individual receives his mental wounds in that sphere which nature and external circumstances have provided for him; and, moreover, each has a point on which he is most vulnerable, another sphere from which violent shocks most easily proceed: in one it is money, in another the estimation in which he is held by others; in the third, his feelings, his faith, his knowledge, his family, etc. But the emotions and passions are not the only precursors of insanity; the state of exhaustion of the sensibility which they produce is also a very frequent cause. Where there is no strong intelligence to govern the illusions, the mental coldness and want of interest—where everything seems cold and stale, the heart benumbed, the world become empty—these mental states very commonly end in melancholia, suicide, or profound insanity.

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[1] We could quote many statistics in favor of this view, especially the statements of Parchappe and Brierre de Boismont, in opposition to the calculations of Moreau ('Comptes rendus,' xvii., 1843, pp. 134, 279). We consider, however, for the reasons stated in § 63–64, that it is impossible to solve this question by statistics alone; still it may be mentioned that Guislain also ('Leçons orales,' ii., 1852, p. 44), found moral causes to exist in 66 out of 100 cases; which quite coincides with the figures given by Guislain—67, and Hare 66 per cent.

[2] Georget, 'De la Folie,' Paris, 1820, p. 160.

[3] See two examples of insanity caused by violent shock, by Ellis ('Traité,' etc., trad. p. Archambault, Paris, 1840, pp. 108, 109). Ellis here ascribes the effect to the altered cardiac activity. Guislain found, amongst 100 patients who were admitted in the course of a year, shock or anxiety to be the cause of the insanity in nine instances.

Although, in general, it is chiefly the long, continuous emotions which have a powerful influence on the production of mental disorders, there are also cases where an attack of insanity, especially of mania, immediately follows a single outburst of violent anger or rage: such cases, also interesting in a forensical point of view, frequently occur under the co-operating influence of spirituous liquors, even when they have been taken in very small quantity. This would not be likely to occur in any but those who are strongly predisposed.

§ 99. The *mode of action* of these psychical causes is either direct or indirect.

In the first case, the emotions, particularly the passed-off psychical phenomena, are the *immediate* originators of the mental disease, inasmuch as they produce a state of intense irritation of the brain, which now continues.

Thus, for example, fright, which is so dangerous to the female organization, may immediately give rise to an insanity which for years may present the chief character of the physiological effects of fear—that half convulsive, half paralytic state of torpor, of thought, and will.[1] At other times we see long-continued moderate psychical perversion, persistent anger, grief, anxiety, owing to direct excessive irritation of the brain, gradually increase and pass immediately into the first stage of insanity which very often presents the special character of these kinds of psychical pain.

Here also (according to the preceding section) it is often difficult to distinguish early mental predisposition from more immediate psychical causes. Those causes may also here be mentioned, in which mental peculiarities of long standing, which have for a long time gained for the individual the title of a half-foolish, crotchetty candidate for the madhouse, gradually pass without further appreciable cause into actual insanity.

More frequently, however, the insanity originates indirectly—through the medium of a pathological process—from the psychical causes, inasmuch as they, in the first place, bring about further deviations from the normal organic processes in other parts, from which then the cerebral disease proceeds as a secondary result. If we consider the fact previously spoken of, that the emotions ordinarily disturb sympathetically the functions of the organs of circulation, respiration, digestion, and of blood formation, we will easily understand how these, when long continued or very violent, must cause slight disorders of these functions, and those individuals are most easily affected in whom (owing to congenital or acquired disposition) emotions are most easily excited.

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[1] We may call to mind the similar sudden effect of shock in the production of epileptic attacks. Anger may act quite as suddenly. In these cases a very rapid and intense change in the collective activity of the brain takes place, which appears to act very injuriously upon that organ.

Very frequently the cerebral disease only commences when, after long oscillations, some serious pathological change has gradually arisen in some other organ.

It is by no means rare, for example, after some untoward event which immediately caused disturbance of the cerebral processes, to see the individual become again mentally quiet; but he begins to feel ill, to suffer in various other organs, and it is only after years of constantly increasing deterioration of the constitution, owing to the development of anæmia or other chronic disease, that mental disease is established. These effects are particularly evident in states of continued but carefully concealed mental pain: those tears which have been long restrained and concealed with smiles or pride, or falsehood, show themselves almost unfailingly in the development of chronic diseases which secondarily give rise to a cerebral affection. We see that under such circumstances the individual soon becomes emaciated, digestion suffers, and the intestinal functions become weak; that sleeplessness, palpitation, cough, all kinds of anomalies of sensibility, cerebral congestion, nervousness and hypochondria, establish themselves. In the female sex, menostosia or irregularity of the periods, anæmia, neuralgias, and the group of symptoms of hysteria appear.

We see that, under the influences of such circumstances, dispositions to disease which had hitherto been dormant—tuberculosis, chronic heart diseases, etc.—are now awakened or rapidly aggravated, and that out of these pathological mediators between first causes and ultimate results, mental diseases proper are finally established.

A mediator of this description of especial importance and frequency in connection with mental diseases is continued *sleeplessness*, which often accompanies the depressing emotions, which overexcites the brain, and lowers the nutrition. It presents, therefore, in the preliminary stages of insanity, a symptom which may be often effectually combated by therapeutic measures.

Most of the relations spoken of in this section are explicable through the influence of the nervous centres on the whole economy; and it is easily comprehensible that these consequences of the emotions are most frequent and most dangerous in the period of life in which the organism is subjected to the greatest expenditure of force in order to its proper development and further growth, and in which it generally is most capable of disease, viz., at the period of puberty, during pregnancy, childbirth, the climacteric period, etc.

The cause of the depressing emotions, the groups of ideas around which it revolves, exercise frequently (but not always, much more decided in the minority of cases) a deciding influence on the subject of the insane ideas. Thus, after the loss of a loved relative, the delirium will long revolve around those ideas which have relation to this loss—a relation which coincides to a certain extent with that mentioned above. In these cases the boundary betwixt the physiological state of emotion and insanity is often difficult to trace. At least, it may demand profound consideration; the latter may appear as the immediate continuation of a physiological state of the established emotion.

The essential difference between the two, therefore—between melancholia and a gloomy disposition—consists in this, that in the former the patient cannot withdraw himself from his ill-humor, because it has become fixed through the mediation of abnormal organic phenomena: these latter may in certain circumstances be very important in regard to diagnosis.

Besides this regulating influence of the cause of the depressing emotions on the subject of the delirium, there are certain definite moral causes, which give (but not always) also a peculiar character to the insanity. Thus, the insanity observed in women after disappointment in love is characterized generally by a deep melancholic depression, occasionally passing into stupor; by a tendency to suicide by hysterical complications, great bodily enervation, frequent termination in tuberculosis. Insanity from fright most commonly presents the character of melancholia with stupor, with or without consequent mania, etc.

SECTION III.—*Mixed Causes.*

§ 100. 1. *Drunkenness* stands midway between the psychical and the physical causes; its effects are very powerful as well as very complex. On the one hand, the action of alcoholic excesses is principally purely physical—in part direct, by causing irritation and changes in the nutrition of the brain, by the development of chronic stasis within the cranium; in part indirect, by producing drunkard's scorbutus, fatty degeneration of the liver, serious gastric diseases; in short, by complete ruin of the constitution. But, on the other hand, drunkenness produces also important psychical causes—partly in those excitements, noisy quarrels and brawls, which drunkenness so frequently occasions; partly in the sad mental impressions which its ordinary consequences—domestic discomfort, ruin in business, withdrawal from the family circle, loss of self-respect—must gradually force home. Finally, as a third cause, it is to be remembered that in many cases the drunkenness is not the cause, but the consequence, of such impressions—domestic sorrow, grief, annoyance, and vexation; because of which, relief and consolation are sought in dissipation. Under the simultaneous action of two such powerful causes, insanity is generally very rapidly developed.

That intoxication, when carried to a certain degree, as a dreamy condition with numerous hallucinations and illusions, really resembles insanity, is easily understood. Sometimes we see individuals who, after partaking of a relatively small quantity of spirits, and without being in a state of deep intoxication, but retaining fully their consciousness, present a great tendency to commit very extravagant, noisy, and foolish acts; a circumstance which may be truly considered as a symptom of predisposition to mental disease. Moreover, there occur in drunkards sudden convulsive states which resemble epileptic attacks, and which are sometimes followed by a condition of forgetfulness and tranquil delirium, at other times by outbreaks of furious delirium, which has been termed the convulsive form of intoxication.[1]

The habitual drunkard, in whom the habit is already far advanced, presents also, even when he is not in a state of intoxication, many signs which indicate the existence of an advancing chronic disease of the brain, and which make him closely resemble the mentally diseased. Indeed, this condition may gradually pass into insanity, and particularly into dementia; and there are constantly found in the brains of habitual drunkards, as in many of the insane, the results of passive congestion—chronic opacities and thickenings of the cerebral membranes. The appetite acquired by habit is so powerful in the drunkard, the ideas which might oppose it are so weak, and the will has become so paralyzed, that he, even though he is aware that he renders himself despised and contemptible, undermines his constitution, disturbs his domestic happiness, ruins his business, and every day postpones the good resolution which he perhaps had made. The craving, the dizziness, the dulness of the senses, the muscular feebleness, the stomach complaints from which he suffers, are, each time he partakes, alleviated for the moment, and it may, perhaps, be partly owing to the fact that these disorders require each day to be remedied that drunkenness is often so inveterate.

Serious mental disorders may commence in drunkards in various ways.

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[1] See Marc, 'Die Geisteskrankheiten,' ii., p. 431; Drake, in Nasse's 'Zeitschrift für Anthropologie,' 1824, p. 224.

Delirium tremens attacks habitual drunkards, and sometimes also individuals who are in the habit of drinking, but who very seldom become intoxicated. Occasionally it comes on suddenly ; generally it is preceded by sleeplessness, or by disturbed sleep from confused dreams. Emotions, pains, acute diseases (especially pneumonia), hæmorrhages, weakening influences of any kind, sudden suspension of all alcoholic drinks, frequently determine the commencement. Its characteristic symptoms are sleeplessness, tremor, tendency to perspire, hallucinations ; the mental state is generally that of great restlessness and agitation, chiefly depending on the hallucinations—therefore in certain circumstances the patient may become dangerous to those surrounding him.

Of all the various forms of chronic insanity, drunkenness especially appears to possess much in common with general paralysis. Besides, incompletely developed forms, which in a medico-legal point of view are often very difficult to judge of, are very common. These slight chronic mental anomalies observed in the drunkard are manifested by very apparent mental dulness, loss of the sense of duty, and in general of all the higher sentiments ; conscience and the sense of truth are blunted ; the intellect is generally enfeebled, especially the memory : frequently slight or well-marked hallucinations also exist. Numerous other anomalies of the nervous system also present themselves—tremors of the hands and of the tongue, deadening of the sense of sight and of touch, debility of the genital organs ; the patient has formication and cramps in the limbs, giddiness, sometimes epileptic attacks of greater or less severity ; sooner or later marasmus and dropsy may set in, with the usual local affections (gastric disease, emphysema, cirrhosis of the liver, Bright's disease, etc.). The children of drunkards very frequently die early from convulsions ; many of them are idiots, imbeciles, or microcephalic ; or in later life they present the same disposition to drunkenness, insanity, and crime.

We cannot state generally to what extent drunkenness acts in the production of the mental diseases ordinarily met with in asylums ; the various nations present in this respect very great differences, and the statistics which we possess can be only to a slight extent compared, because delirium tremens is sometimes included, sometimes not. Amongst 747 cases, Halloran found drunkenness given as a cause in more than ⅕th. Prichard and Esquirol ascribe the half of the attacks in England to this cause. In 1848, Webster, in Bedlam (704 cases), found this to be a cause in only ⅛th–⅑th of the cases ; Morrison, in Bedlam (1428 cases), in scarcely ⅛th, and amongst these there are certainly included several cases of delirium tremens. It is generally known that in later times the abuse of spirits in England has very much diminished, and this cause has proportionately decreased in the etiological lists of the asylums. I have been assured by very competent authorities in England, that this gratifying result is to be attributed, not to temperance societies, but to the influence of the corn laws. At the present time drunkenness nowhere appears to be such a powerful cause of mental disease as in America. Rush gives this as the cause in ⅓d of the cases in the hospitals of Pennsylvania, and later statistics of certain American asylums show even a larger proportion. From Germany we have important statistics by Jacobi; Bergmann (for Hanover, ⅙th) ; Dagonet (1856), for Stephansfeld, gives ⅛th–⅑th of the cases as the average.

Drunkenness is naturally a more important and frequent cause of insanity in men than in women; still there also occur amongst females, not only of the lower class—amongst prostitutes—where, without doubt, this drunken mania is very frequent—but also in the higher classes, amongst hysterical females, particularly during the climacteric period, examples of drunkenness and resulting insanity. Sutton mentions a case where, in a lady, delirium tremens resulted from the excessive use of tincture of lavender for sleeplessness.

Dipsomania, properly so called, or periodic intermittent drunkenness, should not be considered as a cause, but rather a symptom, of periodic insanity. Several cases have been observed—and I myself know of such—in which from time to time, simultaneously with other nervous symptoms, headache, great prostration, sleeplessness, nausea, gnawing sensation in the epigastric region, mental perversion, general discomfort, and a certain degree of melancholy sets in, which, after a time, is succeeded by restlessness; the patient begins to frequent the tavern, and generally drinks hard for several days continuously. The drunkenness in these cases generally attains the proportions of an actual maniacal attack, from which the patient emerges sometimes quickly, sometimes slowly, in a state of deep depression, and often retains for a long time a strong aversion to spirits. Generally these attacks are repeated. In their diagnosis we have to inquire particularly whether or not the attack has been preceded by a stage of melancholia, whether there be any hereditary predisposition, and whether the ordinary habits of the patient be those of sobriety, or, on the contrary, he exhibits an inclination to drunkenness. In the latter case it is very problematical whether the attack of dipsomania be the result of disease.[1]

In America, and also in England, cases enter the asylums in which the abuse of *opium* seems to have been the cause of the insanity; such cases present also the general appearances of chronic opium-poisoning. *Tobacco*, when indulged in to excess, and in some cases even its moderate use, may considerably affect the functions of the entire nervous system. Although there seem to be no facts which might lead us to suppose that tobacco alone can become a cause of insanity, still it cannot be denied that in many individuals with weak and disturbed mental functions it may co-operate to this end. The cerebral affection which is prodnced by *chronic lead-poisoning* presents sometimes many analogies to delirium tremens, particularly as in both cases there is observed an excited muttering delirium with tremor; but in lead-poisoning the excitement passes frequently into stupor; besides, there are often cramps and paralysis: the prior existence of lead-colic and the gray line round the gums may assist in forming the diagnosis. Moreau (Annal. Méd. Psychol., vii., 1855, p. 639) narrates a case of stupor alternating with maniacal excitement after the extensive use of a pomade which contained a great quantity of lead. The disease commenced after the pomade had been used for fourteen days. In this case there was also colic and the gray coloration of the gums.

§ 101. 2. A complex action like that of drunkenness, influencing at the same time the mental and bodily health, results in a life spent in disquietude and tumult, in carelessness and dissoluteness; we may also add, misery and privation, which are very important, and frequently the only appreciable causes. How often do we find in the antecedents of the insane, an irregular life, disturbed by adventures, changing impulses, and peculiar complication, full of varying fortunes, hardships, misery, and excess—full of incidents such as must afford fertile sources of conflicts with the world, of mental excitement and deep disappointment! How often do we see privation and poverty which lead to mental pain and despondency, in which the individual can no more surmount the misery of his position, can no longer resist his misery, and falls into melancholy, suicide, or profound insanity! But there are other influences than those which are directly mental: the bad nourishment, hunger, cold, fatigue, and over-exertion, which must necessarily accompany such misery, are important physical causes. In all disorderly and irregular lives, whether voluntary or compulsory (as fatigues of military life, in war, etc.), we ordinarily meet these two kinds of injurious influences together.

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[1] See Brühl-Cramer, 'Ueber die Trunksucht,' etc., 1819; Hohnbaum, "Ueber die psych. Behandlung der Trunksüchtigen," Nasse's 'Zeitschrift für psych. Aerzte,' 1820; Marc-Ideler, ii., 1, c.; Huss. 'Alcoholismus Chronicus.'

3. *Sexual excesses* have a similar double injurious influence, in consequence of the mental excitement which is frequently associated therewith, and owing to the physical exhaustion which results. The same may be said of onanism, which is likewise an important and frequent cause of insanity, as of all other physical and moral degradation. Besides the emission of semen, and the direct action of the often permanent irritation of the genital organs on the spinal cord and the brain, onanism certainly has a still more injurious action on the mental state and a more direct influence in the production of insanity. That constant struggle against a desire which is even overpowering, and to which the individual always in the end succumbs—that hidden strife betwixt shame, repentance, good intentions, and irritation, which imperiously impels to the act, we consider, after not a little acquaintance with onanists, to be by far more important than the primary, direct physical effect. The share which each mode of action exerts cannot be distinguished in individual cases; but, generally speaking, the effect of onanism seems to be greater in proportion to the earliness of the age at which the constitution is injured and the patient becomes markedly anæmic, the degree in which it is accompanied by those painful emotions, and in which it becomes the cause of local disease of the genital organs (see § 108). When these three influences fail, masturbation is seldom followed by serious consequences.

Ellis ('Traité de l'Aliénation,' p. 133) ascribes the majority of all the cases treated in public asylums to onanism. Others, as Guislain and Parchappe, in their etiological tables, attribute to this cause but a small proportion. Compare the treatise on the relations of self-abuse as a cause of insanity in Jacobi and Nasse ('Zeitschrift,' i., 1835, p. 205). Ellinger ('Zeitschrift für Psychiatrie,' ii., 1845, p. 22) considers, from careful observation in Winnenthal, that onanism is a co-operating influence in one-fifth of the cases. See Nasse, ibid., 1849, p. 369; Claude, 'Revue Médicale,' 1849, Mai, p. 252.

In this series of causes we must carefully avoid confusion. It is not at all rare to see at the commencement of insanity (or rather at the stage of transition of a moderate degree of melancholia into mania) the patient exhibits an increased sexual instinct which may lead to onanism or to frequenting bad houses. In this we recognize, not a cause, but a symptom of mental disease. In many cases where the sexual excesses really at the time appear to be causes of the insanity, they are only the immediate consequences of a morbid irritation, of an excitation of long standing of certain portions of the nervous system. In particular, onanism spontaneously commencing in early life, long before puberty, may almost with absolute certainty be ascribed to morbid irritation of the genital organs, which coincides with the entire nervous constitution and with a predisposition to mental disease.

The mental disorders which originate under the influence of onanism have no constant specific character, but they in the majority of cases betray themselves by profound dulness of sentiment and mental exhaustion, by hallucinations of hearing, by a religious character of the delirium, by a rapid transition to dementia, and consequent frequent incurability.

SECTION IV.—*Physical Causes.*

§ 102. As we do not consider it possible that (see §§ 79 and 98) the question whether insanity originates more frequently from psychical or from somatic causes can be solved by statistics alone, any discussion of the statistics relating to this subject, from the days of Pinel to the present time, may be dispensed with, in that the reader in regard to the investigations on this subject is referred to the old discussion which has been carried on between Moreau de Jonnes on the one hand, and Parchappe and Brierre on the other,[1] with the remembrance that all such tables afford results inadmissible and unreal, according as the individual titles are vague and abstract,[1] and idiocy less carefully separated from the other mental diseases.[2] It is evident that in many cases insanity may originate from purely physical causes; that, on the other hand, under their co-operation, psychical causes lead more rapidly and more markedly to the production of mental disease. A hereditary or acquired disposition may frequently, though not invariably, be made out; it often manifests itself, besides the symptoms we have already mentioned, by the easy origin of delirium in acute diseases, even though of but slight intensity. In such individuals, in different degrees, any serious bodily disease may, through secondary affection of the brain, become a cause of insanity: on the other hand, however, somatic causes do not only act in this way by exciting disease in those already predisposed, but by them dispositions are originated which afterwards, under the influence of moral causes, pass into insanity.

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[1] 'Comptes rendus de l'Académie des Sciences,' xvii., 1843.

These physical causes consist partly in conditions which, although still physiological, expose the patient more to disease (as childbed), partly in already developed acute, or to a greater extent in chronic diseases (*e. g.*, tuberculosis)—partly in certain external injuries (*e. g.*, injury of the head). In their enumeration we shall commence with those which act directly on the nervous system.

§ 103. 1. *Insanity originating from other nervous diseases.*—Most diseases of the brain, even although they do not at first present the characters of mental diseases, may in their further course become such. Acute meningitis can only, when it has become chronic—that is, through the metamorphoses, and the other results of the exudation—be immediately recognized as a mental disease. The various affections of the brain which may give rise to *epilepsy* are sometimes connected from the first with decided mental disturbance—intermitting attacks of the former may even precede the intermittent convulsions—sometimes it is only after the epilepsy has existed for a long time that those morbid processes can become the originators of mental disease[3] (either because the affection—*e. g.*, chronic inflammation—originally situated in the interior of the brain, extends to the surface, or through consecutive atrophy of the brain, etc.). It is the same with *apoplexy:* it can, besides the paralysis, be followed by an insanity (almost always in the form of dementia—sometimes, however, of mania) which is sometimes primary, existing from the commencement—sometimes secondary, owing to those degenerations which apoplexy gives rise to within the brain. Sometimes the mental disorder is very limited, affecting only certain series of ideas: it may, however, extend to general and profound mental weakness.

All *severe injuries to the head* are acknowledged to be of great importance in the production of insanity, whether they consist of fracture of the skull, extravasation of blood, loss of cerebral substance, or simple concussion. While in the most severe of these cases the resulting mental disturbance (dementia, dementia with mania, etc.) generally appears at once or on recovery from the injury, in other cases it does not appear till much later—one, two, six, or even ten years after the accident. In the majority of these cases there may be small residuous purulent patches which long remain without any injurious consequence, or small apoplectic cysts, chronic processes in the dura mater, etc., around which there arises, later, without any cause, a gradually extending inflammation of the delicate membranes or of the cerebral substance. In other cases there is slowly formed an exostosis, a tumor, or chronic caries of the skull, from which hyperæmias and exudative processes proceed. Occasionally, however, nothing of this sort can be perceived; it appears that in certain cases concussion may, without there being any anatomical lesion, be followed by such results within the brain that it remains for years after very susceptible to disease, so that after the slightest exciting cause (for example, a moral cause) insanity is produced.

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[1] Moreau has, for example, a quite incomprehensible and vague title, "Irritation excessive," with a large number to it.

[2] The same author brings forward iodicy with an enormous number, as one of the physical *causes* of mental disease.

[3] See, further on, the special description of epilepsy as a complication.

It frequently happens that on minute inquiry the physician learns from the relatives of the patient of former circumstances of this kind which had been almost forgotten—a severe kick from a horse, a fall or blow on the head which was followed by insensibility.[1] Sometimes the friend now remembers for the first time, that since the accident a certain change has taken place in the character of the patient—that he had become fretful, irritable, perverse, etc. This change, however, has been little heeded, and had not even been recognized in its true significance—as a precursor of insanity—when the disease broke out.

We quote the following from the interesting work of Schläger, "On the Mental Disorders which result from Concussion of the Brain" ('Zeitschrift der k. k. Gesells. der Aerzte zu Wien,' xiii., 1857, p. 454):—Amongst 500 patients the author discovered 49 (42 males and 7 females) in whom the development of the mental disorder stood in direct relation to the consequences of previous concussion of the brain. In 21 cases, the injury was followed immediately by loss of consciousness; in 16, by simple mental confusion, wandering of the thoughts; in 12, by dull pain in the head. In 19 cases the mental disease commenced within the first year after the accident, but in the great majority not until the lapse of a much longer time; in 4, after upwards of ten years. Generally, the individuals manifested from the time of the injury a tendency to cerebral congestion after the use of even a small amount of spirits, after mental excitement; also in several cases ocular hyperæsthesiæ (subjective impressions of light and of color, photophobia), often amblyopia. In 15 cases, there appeared shortly before and during the existence of the cerebral disorder black specks, which exercised a deciding influence on the character of the delirium. Very often also the patients experienced ringing and noises in the ears: in 18 cases there was dulness of hearing; in 3, abnormal subjective perceptions of smell, changes in the pupils. Very often the character and disposition changed: in 20 cases great irascibility, an angry passionate manner even to the most violent outbursts of temper was remarked—less frequently over-estimation of self, prodigality, restlessness, disquietude; in 14 cases there were attempts at suicide, frequently weakness of memory, confusion. The prognosis was almost always unfavorable. Seven of the cases ended in general paralysis, 10 cases came to post-mortem examination. In these there were found occasionally osseous cicatrices, adherent dura mater, opacity and serous infiltration of the delicate membranes, more or less hydrocephalus chronicus, granulations on the lining membrane of the ventricles; in one case a cerebral induration, with atrophy of the brain and chronic inflammation of the delicate membranes. Injury of the cranial bones renders the probability of consequent psychical disturbance much greater than simple injury of the soft parts. Very interesting examples of insanity consequent upon injuries to the head may be found in the 'Report of the Vienna Asylum' (1858, p. 47).

To those cases which result from diseases of the bones in consequence of injury may be added insanity from caries of the skull owing to internal causes, especially from caries of the temporal bone, internal otitis with its results, thrombosis, meningitis, etc. Jacobi[2] has observed 7 cases of the latter kind; they never admit of recovery, and but seldom of improvement. In the asylum at

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[1] In a similar manner, we frequently see also severe spinal neuroses appear for the first time long after the accident. Jakubowsky ('Chorea St. Viti traumaticæ exemplum,' Krakau, 1838, Gratulationschrift) relates a case of St. Vitus' dance of this kind which appeared several months after the receipt of a kick on the back from a horse; subsequent recovery.

[2] 'Die Hauptformen,' etc., p. 662.

New York, 7 cases occurred in a single year in which mental disease originated from diseases of the internal ear (Hanbury Smith, 'Annal. Méd. Psychol.,' 1854. vi., p. 450). Cases have been observed in which a violent attack of mania ensued on cessation of a purulent discharge from the ear, and ceased, or at least considerably diminished, on the return of the discharge (L. Meyer, 'Deutsche Klinik,' 1855, No. 6).

Along with injuries to the head we may also mention *insolation* as a cause, though not of frequent occurrence, of insanity. This acts, perhaps, by causing great cerebral hyperæmia (and œdema?); perhaps the insanity is due to excessive nervous irritation of the brain caused by prolonged exposure to the rays of a burning sun. Ellis[1] mentions two cases of insanity caused by insolation: one of them ended in recovery, the other in dementia.

Those cases in which insanity originates after (and, without doubt, in consequence of) a relatively insignificant *injury of a peripheral nerve* (above all, wounds of the soft tissues), or disease of a nerve of sense commencing at the periphery—for example, peripheral deafness—are of very great pathological interest. Thus we have seen an attack of profound melancholia occur in a hysterical woman after a slight injury of the eye caused by a splinter of wood; insanity has also been observed (Herzog) to occur after the operation for strabismus.[2] Foville[3] mentions numerous cases of superficial disease of the cerebellum in the insane in consequence of peripheral disorders of the fifth and auditory nerves; to this pathogenic category belongs also the case already quoted from Jordens,[4] of a boy who became maniacal through a small piece of glass penetrating the sole of his foot, and continued so until the glass was removed. It is very probable, too, that the cases mentioned by Zeller,[5] of insanity consecutive to simple external wounds of the head, may also be ranged under this head.[6] Inasmuch as these cases vividly remind us of the delirium nervosum observed after and sometimes during operations, this cerebral affection may be compared to that affection of the spinal cord which determines traumatic tetanus; but with this difference—that the spinal cord and the brain always react according to their own peculiar energy.

In the next place, we may here mention various other powerful or long-continued nervous irritations from the periphery of the organism. As an example of the first series, we may mention that remarkable case recorded by Esquirol, of mania occurring after a strong impression of smell; of the second series, perhaps, *e. g.*, the irritation produced within the bowels by tænia and other entozoa, or even of pruritus chronicus. Very severe pain may also call forth an attack of insanity in an individual who is predisposed. The 'Report of the Vienna Asylum' (1858, p. 60) contains a case of this kind, in consequence of severe pain resulting from inflammation of one of the tendinous sheaths in the palm of the hand.

§ 104. Formerly existing *spinal neuroses*, whether manifested in states of developed hysteria, or merely in limited convulsive or neuralgic affections, may become important causes of insanity. Here it seems that mental disorders may originate as well from a gradual extension over more considerable portions of the nerve centres—and this is very frequently the case with hysterical persons—as from a rapid transition from one part of the nervous system to another: in the latter case the insanity may frequently, and even periodically, alternate with other nervous affections. Thus Brodie[1] narrates the case of a lady who for a year suffered from permanent convulsion of the sterno-mastoid muscle; suddenly the convulsive state ceased, and she fell into melancholia. The melancholia lasted for a year, when her mental health returned; but the muscular convulsion returned also, and continued for several years. In another case, also reported by Brodie, a neuralgic state of the vertebral column alternated with true insanity.

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[1] 'Traité de l'Aliénation,' etc., par Archambault, 1840, p. 81.

[2] Oppenheim's 'Zeitschrift,' xxi., 1842, p. 101. From the 'St. Petersburg Transactions,' where I, alas! could not read the case in the original.

[3] 'Note an die Académie, l'Institut,' Jan., 1843.

[4] 'Hufeland's Journal,' vol. iv., p. 244.

[5] 'Zeitschrift für Psychiatrie,' i., 1, p. 49.

[6] See moreover the case mentioned by Hirsch ('Spinalneurosen,' p. 131).

Concerning *Hysteria* proper. This general affection of the nervous system is manifested sometimes more in one, sometimes more in another part of the nervous apparatus: only very seldom, however, do the mental faculties remain entirely free from all disturbance. In the ordinary slight cases which cannot as yet be considered as mental diseases, we see, sometimes together with marked motory-sensitive anomalies, sometimes without them, as a predominating affection, the peculiar hysterical disposition, viz., immoderate sensitiveness, especially to the slightest reproach—tendency to refer everything to themselves; great irritability, great change of disposition on the least or even from no external motive (humors, caprices), and not the slightest reason can be given for the change they often exhibit tender sympathy for other female individuals, peculiar eccentricities, very lively intellects (in young girls, pleasure in learning, etc.). This general state comprises many peculiarities of character, often of quite another kind, as tendency to deception and prevarication, to all kinds of misdemeanors, jealousy, malice, etc.

Serious hysterical mental disorders are manifested principally in two different forms. In the first place as *acute* attacks of delirium and excitement even to developed mania. These are developed sometimes from ordinary hysterical convulsive attacks, which, however, may be very slight; sometimes they appear to occur instead of these convulsive attacks, which are then entirely absent (as occurs in epilepsy). Such maniacal attacks are sometimes observed in very young girls, and manifest themselves by vociferation, singing, cursing, aimless wandering; occasionally by more formal delirium, attempts at suicide, nymphomaniacal excitement, occasionally by delirium of a religious or demoniacal character; or there are attacks of all kinds of noisy and perverse, but still coherent, actions. In either case they retain but slight remembrance of what took place during the disorder.[2]

The *chronic* form of hysterical insanity may show itself in the form of melancholia or mania. It commences sometimes as a slow gradual increase of the habitual hysterical disposition; the symptoms gradually appear more persistent and more intense, the patient becomes more and more incapable of self-control; sometimes it commences acutely under the influence of mental emotion or menstrual derangement, weakness owing to various acute diseases—after a few slight, perhaps incomplete, hysterical attacks. At first, moderate, but easily noticed, changes of character are observed; greater seriousness, egotism, great care of the health is manifested—indecision and absence of will, impatience, violence, tendency to anger. The patients always grow lean, anæmic, occasionally quite marasmatic; they suffer from constipation, from disorders of digestion and menstruation; occasionally the more serious chronic forms of melancholia and mania are developed; temporary exacerbations frequently occur with marked cerebral congestion, swelling of the upper lip, violent headache, or symptoms of diarrhœa. The symptoms almost always become aggravated at the menstrual period. An erotic element may frequently be recognized in the disposition and delirium of these patients; in many instances it is very slightly marked, and not unfrequently it is altogether absent. Ecstatic states are occasionally presented in the higher grades; hysterical insanity passes more frequently into dementia than one might at first believe.

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[1] 'Lectures on certain Local Nervous Affections,' London, 1837, p. 8.

[2] See L. Meyer, "Ueber acute tödliche Hysterie," Virchow's 'Archiv,' ix., 1856, p. 98.

The diagnosis of hysterical insanity is principally based upon former peculiarities of character, present or past existence of globus hystericus, meteorismus, convulsive attacks, local anæsthesias and hyperæsthesias, symptoms of paralysis. Very frequently we find in these individuals a well-marked hereditary disposition to nervous diseases, chlorotic appearances, disorders of menstruation (which, however, often disappear without any improvement of the hysteria), and—of the greatest importance in regard to prognosis and treatment—local diseases of the genital organs. Some cases may doubtless be attributable to non-satisfaction of the sexual appetite; but this is, as a rule, much overrated, as the existence of hysteria in girls who have not reached the age of puberty, its great frequency amongst married women—the frequent injurious influence of marriage, pregnancy, and childbirth, and the frequency of the affection amongst prostitutes, shows.

Fully developed hysteria occurs also, although more rarely, in young men (besides many other cases, I have recently observed such a one with distinct globus and convulsions in a young married, very anæmic man, whose wife was pregnant). I do not know, however, whether hysterical insanity has ever been observed in men.

§ 105. 2. *Acute febrile diseases* of different kinds occasionally give rise to an outbreak of insanity; the disorders which they occasion within the organism seem to be the only causes of the insanity. Typhus fever, intermittent fever, cholera, the acute exanthemata, pneumonia, and acute rheumatism, are the diseases in which it occurs most frequently. In regard to the latter, the facts are as yet little known and studied: we shall here give this remarkable cause of mental disorders the consideration which it deserves.

After typhus fever, and as well after a slight as after a severe attack, it is not at all rare to see a slight degree of mental disorder which may be placed in the same category with the slight affections of other parts of the nervous system—incomplete anæsthesias, transient paralyses of the extremities, etc. The patient, now quite free from fever, or even become convalescent, retains either some fragments of his former delirium, or he exhibits, independently of this, all kinds of perversities—erroneous ideas on various subjects, sometimes even in regard to himself; also hallucinations, with nervous exhaustion and weakness, without profound excitation of sentiment. This form of mental disturbance, this species of fragmentary delirium, admits of an altogether favorable prognosis, and almost always disappears rapidly when the nutrition is improved and the strength increased, even though, as sometimes occurs, a certain degree of maniacal excitement be associated with it. But there are also much more severe cases of true chronic insanity which commence during convalescence from typhus fever, or can at least be traced to this and to its slow commencement. Melancholia, which gradually increases; occasionally it is accompanied with stupor—sometimes with ideas of poisoning, refusal of food, early intermixture of symptoms of mental weakness, and transition to mania and profound dementia;—such is the ordinary course of these cases in which recovery of the cerebral functions does not take place, which perhaps depend on permanent disturbances of nutrition of the brain; but, at all events, the prognosis is, according to experience, always unfavorable.

Those who have written upon typhus fever—for example, Chomel, Louis (ii., p. 33, 2d ed.), Simon ('Journal des Connais. Med.-Chir.,' Août, 1844, p. 53), Sauvet ('Annal. Méd. Psychol.,' 1845, vi., p. 223), Leudet (ibid., 1850, p. 148), Thore (ibid., p. 596), Schläger ('Oesterr. Zeitschrift für prakt. Heilk.,' 1857, 33–35). Tüngel ('Clinische Mittheilungen,' Hamburg, 1860, p. 18)—have communicated cases of this description. Jacobi, in one-eighth of his cases of mania, ascribes the disease to the consequences of typhus fever: it appears to me very doubtful, however, whether this has always been true typhus. Schläger found amongst 500 mentally diseased, 22 cases which could be traced to typhus fever. I cannot indorse the opinion that the foundation of these cases is to be sought in the hyperæmia of the brain which remains after typhus fever; all point rather to states of anæmia and exhaustion, occasionally even with remnants of the fever. In exceptional cases, these diseases may be caused by the presence of sanguineous clots in the sinus of the dura mater, perhaps by meningitis or by acute atrophy of the brain.

The relation of certain cases of mental disease to *intermittent fever* has been observed since the days of Sydenham. Here, too, a very different relation of the two affections to each other is to be distinguished. In the one, perhaps the smallest, series of cases, we see that in localities where intermittent fever is endemic, certain individuals are attacked, instead of ordinary ague, by an intermittent cerebral affection which manifests itself in regular (tertian, quartan) attacks of insanity (so-called intermittens larvata). There are here generally certain signs of the stages of the attack—yawning, rigors, heat—to be observed, and it is the hot stage especially which is most frequently complicated with cerebral congestion to such an extent as to produce mania. It is, therefore, not an existing intermittent fever, but the endemic cause of the fever, which is the cause of the insanity. The periodic nature of the attacks, and especially great increase of temperature during the attack, together with the endemic character of the fever, are the principal diagnostic signs.

EXAMPLE I.—A young man had five attacks of mental disorder, one every other day. The attack commenced, after very slight rigors, with an indescribable feeling of pain in the cardiac region, and palpitation, which rapidly increased to a state of extreme anxiety. This formed the commencement of the delirium, out of which the patient emerged bathed in perspiration, after a deep sleep. He soon recovered under the treatment for intermittent fever. (Flemming, 'Psychosen,' p. 87.)

EXAMPLE II.—A strong laborer, æt. 30, who had never had intermittent fever, but who lived in one of the many fever districts which surround Siegburg, was suddenly seized with mania: he considered himself to be Christ and those around him to be witches; he abused his master, etc. The head was hot; the eyes red and rolling wildly; the tongue white; epigastrium distended; the pulse somewhat rapid, not feverish; the feet cold. On the application of ice to the shaven scalp, etc., the patient became calm, and during the two following days seemed to be mentally healthy. On the fourth day, exactly at the same hour, the same scene was repeated (sal ammoniac, extr. trifol., and tartar emetic). A third attack occurred in the quartan type, but milder, shorter in duration, and succeeded by sweating: after this, the symptoms disappeared under the use of quinine. In spite of the continued use of quinine, there occurred after five weeks a fourth attack of this periodic insanity, which however, like a subsequent one, which was the last, finally gave way under the administration of bark and quinine. (Focke, 'Zeitschrift für Psychiatrie,' v., p. 376.)

At other times, after an ordinary intermittent fever has lasted for a certain time, there appear, instead of the paroxysms of heat and cold—as if through a leap of the affection—intermitting paroxysms of insanity (violent attacks of mania with delirium, also impulsive suicide during the fit): these states often, with disappearance of decided periodicity, assume the remittent and continuous type, and pass into chronic mental diseases. Finally, there is a third mode of origin which is the most frequent of all: the insanity occurs as a disease consequent upon intermittent fever which has disappeared either in the early stage of convalescence, or not until several months after the cessation of the ague. It is especially after very protracted and severe (especially quartan) fevers that disorders remain which may produce insanity.

The mental disease frequently continues as a uniform persistent chronic affection, and the symptoms of the intermittent fever are no longer observed. Or traces of the fever may still be present; the spleen and liver are enlarged, cachexiæ exist, and irregular paroxysms of ague appear from time to time (during the mental disease). In cases of the latter kind especially, the insanity frequently ceases, sooner or later, with the return of an acute series of a severe attacks of intermittent fever, but by the use of quinine the collective intermittent disease may be removed. In the origin of all cases belonging to the third category, it is certain that, on the one hand, the cachectic-anæmic state which the intermittent fever leaves behind it, and, on the other, the melanæmia and the deposit of granular pigment in the cerebral vessels must play an important part (on this subject see my paper on infectious diseases, Virchow's 'Pathologie,' ii.) as the later can also very probably call forth severe acute cerebral affections (coma, apoplectiform attacks, etc.) which are sometimes observed in intermittent fever (*occasional* cases belonging to the first and second category). Still, post-mortem examinations occur in which no pigmentation of the brain can be discovered.[1]

Jacobi has reported three cases in which attacks of ague occurred instead of insanity (chronic) which existed, and with those the disease ceased (a so-called critical phase of intermittent fever).

Koster observed that in 24 cases of insanity in Siegburg who took intermittent fever, 7 recovered, 7 were improved, and in 10 no change resulted: amongst the latter, however, there were many chronic and incurable cases. Amongst the former there were also several in whom the prognosis had been considered unfavorable. Gaye, in the Schleswig Asylum, observed in three years 56 cases of intermittent fever in insane patients, "but only exceptionally have favorable results occurred."

See Sebastian, "Bemerkungen über die Melancholie und Manie als Nachkrankheiten der Wechselfieber," 'Hufeland's Journal,' 1823, lvi., p. 3; Mongellaz, 'Monographie des Irritations Intermittentes,' Paris, 1839, i., p. 638; Lippich, "Beiträge zur Psychiatrie," 'Oesterr. Jahrbücher,' Juni, 1842, p. 282; Baillarger, "Sur la Folie à la suite des fièvres intermittentes," 'Annal. Méd. Psychol.,' 1843, ii., p. 372; Focke, "Ueber typisches Irresein," 'Zeitschr. f. Psych.,' v., 1828, p. 375; Koster, 'Diss.,' Bonn, 1848; 'Bericht der Wiener Irrenanstalt (Wien, 1858), p. 51.

Acute mental disorders occasionally occur also after *cholera* (asiatica). Sometimes it is transient delirium, absence of mind, perverted instincts; sometimes paroxysms of mania, generally of short duration (several days to several weeks), which terminate in exhaustion and sleep; occasionally, also, melancholia of somewhat longer duration, with insane ideas, and, more or less, with appearance of mental weakness. The prognosis is generally favorable, and most of these cases do not find their way into the asylums; sometimes the individuals, already weakened by the previous serious disease, die during an attack of mania; occasionally, also, they pass into the incurable forms.

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[1] Hoffmann ('Günsberg Zeitschr.,' iv., p. 365). The insanity had originated after intermittent fever. The autopsy showed atrophy of the brain; "cortical layer pale, paler than the central gray masses."

See Fischer, 'Prager Vierteljahrschrift,' vol. xxxii., 1851, p. 85; Delasiauve, 'Annal. Méd. Psychol.,' 1849, 2ème Sér., vol. i.; Neumann, 'Lehrb. d. Psychiatrie,' 1859, p. 164.

Those cases of insanity are very interesting which appear during the course of *pneumonia* (generally acute mania). In these cases the insanity is rarely developed at the commencement or at the height of the disease, but more frequently at the time when the fever ceases, or even not until convalescence sets in: these cases are by no means to be confounded with the ordinary delirium which so frequently accompanies the more severe cases; they are generally of short duration, but tend to pass into chronic insanity, so that such patients ought at once to be placed in an asylum. It is not unfrequently slight and limited pneumonias which are followed by mental disease; hereditary predisposition or previous habits of drunkenness may frequently be recognized as predisposing circumstances. The mental disturbance sometimes passes off so rapidly that the existence of a palpable cerebral disease is very improbable and is most likely dependent upon acute anæmia of the brain. In other rare cases, the mental affection lasts for a longer time; it approaches dementia, and is associated with certain paralytic appearances in the muscles. It is probable, therefore, that there may be in these cases sanguineous clots in the sinuses, encephalitis or localized meningitis which may gradually disappear, sometimes completely, sometimes incompletely.

Cases of mental disease consecutive to pneumonia may be found in Jacobi (29th example of mania). Thore ('Annal. Méd. Psychol.,' Mai, 1844, p. 389, and ibid., 1850, ii., p. 586) has several very interesting cases. One of these patients had two successive attacks of pneumonia, each of which was followed by mental disorder. Another case is mentioned by Snell, of mania after pneumonia in a child of nine years ('Zeitschr. f. Psych.,' xiii., 1856, p. 540). Two of these rare cases came under my observation in the clinique at Tübingen, both in the same winter, and another recently at Zürich; two of them belonged to the first, the case in Tübingen to the second, of the above-mentioned categories.

EXAMPLE III.—*Pneumonia; transient mental disorder on the cessation of the fever.*—C. G—, æt. 21, vigorous and robust, was, on the 26th of February, 1859, suddenly seized with a severe rigor, bleeding at the nose and giddiness. He was admitted into my clinical ward on February 28th. On examination, there was found pneumonia of a portion of the right lower lobe, and severe typhus-like symptoms with prostration; there was a good deal of quiet delirium; respiration 39–40; pulse 100–104; temperature 40.3°–41.0° C. On the third day of the disease, herpes labialis appeared, which did not develop properly. On the fourth, the temperature sank from 40.3° in the morning to 39.2° in the evening, pulse 92; the patient became more delirious and absent. On the fifth day, the physical signs indicated complete retrogression of the local process; the temperature is in the morning 38.1°, and in the evening 38.2° C.; pulse 66–72, sometimes intermittent. The countenance is pale; the patient is quite without sense—knows not where he is, does not recollect the simplest events, talks constantly and deliriously, and towards night becomes very restless and unruly (morphia). After passing a very restless night, he next morning had a long and quiet sleep: the face was pale, slightly convulsed; respiration slow, irregular; pulse 60–66; temperature 37° C. From this time the patient continued free from fever; the delirium, ringing in the ears, and vertigo continued for two days longer, after which they disappeared; the pulse still presented great irregularity, and from the eighth to the tenth day of the disease fell to 56–48. On the thirteenth day, resolution of the pneumonia was complete, the mental state was quite normal.—This case is not to be considered one of febrile delirium; the mental disorder was quite a different affection from the preliminary delirium, and did not appear till the fever began to cease,[1] the temperature to diminish, and pulse to become slow and intermittent (the only medicine used was nitre). The case which recently came under my observation in Zürich was very similar to this: the following is, however, very different.

EXAMPLE IV.—*Pneumonia, mania, slight hemiplegia, consecutive mental weakness.*—J. H—, æt. 24, a laborer, was admitted into my clinique on the 21st of January, 1859. The father of the patient died in his fifty-second year from a chronic chest affection, with dropsy. His mother was alive when the patient entered the hospital, but during his residence there she committed suicide. H— had, on the whole, always enjoyed good health; five or six years ago he was suddenly seized with weakness and loss of consciousness, together with stiffness of the limbs: this, however, disappeared in an hour. He had not been intemperate. Three years ago he fell from a tree, but after lying for a short time unconscious he rapidly recovered. At midday, on the 16th January, the patient was suddenly seized with pneumonia; he was bled. Had not been delirious at home, but on the day before his admission he showed symptoms of derangement; during the night of the 20th–21st he spoke in a more lively manner than usual, and on the morning of the 21st, while being conveyed to the hospital, he commenced to be delirious; he screamed in the vehicle, and his excitement increased as he approached the town. On his entrance into the clinique, he was quite void of sense, looked perplexedly about, stretched his arms rigidly before him; his hands clenched; he gave no answers, or if he did they were quite incoherent. After a few hours he partially recovered his senses, and could, for the first time, be minutely examined. His face was more flushed than during the delirium; pulse 76, full; the left pupil more dilated than the right, and the left side of the face seemed slightly paralyzed. A physical investigation resulted in the discovery of pneumonia of moderate extent of the right lower lobe, without complete dulness; other organs normal, urine free from albumen or bile, temperature 38.4 (marked remission of the fever on the fifth day of the pneumonia). On the following day, the temperature had increased from 39.7 in the morning to 40.7 in the evening; marked crepitation in the right lung; the pneumonia has not extended. The pulse was in the morning 82, in the evening 108; respiration 36–44. The patient is in a state of constant violent agitation, continually asks for something or other, is irritable, refuses everything, and very rarely gives a correct answer. In the evening his state passed into complete mania, so that he had to be put into the strait-jacket and into a cell; on this being done, he showed great acuteness of the senses.

On the morning of the 23d, the temperature had again fallen to 38, and in the evening to 37.8; the percussion note was somewhat clearer; the crepitation diminished; pulse 80–100. The patient was still delirious, but not so restless; frequently gave correct answers, slept occasionally and appeared very tired. But on the following day, while the pneumonia had completely disappeared, the patient exhibited total confusion and absence of mind; during nearly the whole of the night he ran about, drawing off and on his shirt; gives no answers, or if he does they are quite incoherent. The temperature could not, in these circumstances, be taken. The pulse was slow, 68; the patient appeared pale and collapsed; the left pupil still more dilated than the right; the left side of the face slightly paralyzed; no trace of paralysis of the extremities (the most probable supposition would be encephalitic inflammation owing to thrombosis of the sinus). On the morning of the 26th, after the patient had spent almost the whole night standing, great œdema of the lower extremities up to the middle of the thigh was found (thrombosis of the crural veins); the temperature was not so high; pulse 124; the cardiac impulse strong and full. The patient sees, hears, and feels; but he seems as if the sensorial impressions were not elaborated; he constantly looks around him with an astonished impression, and is quite without intelligence (Infusum Sennæ; a blister).

During the next eight days, the temperature—with moderate variations—gradually sank to the normal standard, the œdema of the lower extremities disappeared, now and then perspirations occurred, the pulse remained between 64 and 80. The local symptoms of the pneumonia had quite disappeared. The mental disorder continued, but varied in intensity. Sometimes the patient was so

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[1] Metzger (Henle und Pfeufer, 'Zeitschrift,' 1858, iv., p. 220) has also communicated four instances of transient mania in pneumonia, which, however, appear to have commenced at the height of the disease and of the fever, and therefore have quite a different signification.

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stupid and confused, that he seemed to have entirely lost his senses; sometimes he seemed to understand better what was said to him, and to express himself a little more connectedly; sometimes he was more excited, would escape, etc. Now and then he had hallucinations—saw figures, heard firing, etc. His appearance was that of one who had a serious cerebral disease: the eye was fixed and injected; the left eyeball was somewhat more prominent than the right, and turned slightly inwards; the mydriasis was much diminished; the tongue for several days inclined a little to the right. Gradually the patient commenced to walk about; but he always staggered, and, without any symptoms of paralysis of the extremities, it was remarked that he allowed the whole of the left side to hang somewhat. The patient remained in the clinique until the 10th May, 1859. He was at this time entirely without feverishness. His mental state was at first that of profound, and afterwards that of declining dementia. At first he was quite stupid, quite incapable of deliberation; he spoke none at all, or as if he were in a dream, and generally about nothing but eating; at the same time he appeared to be in great anxiety. By slow degrees his mental state commenced to improve; he became cleanly in his habits; on some days he gave correct and on others very incorrect answers. His behavior continued to be very childish, yet it gradually became more cheerful. The symptoms of weakness of the left side improved quite as slowly and incompletely as those of the mental disorder; even at the date of the patient's dismissal, the left pupil was slightly dilated, the tongue inclined slightly towards the left side, and when walking the left side of the body was still a little dependent. He often complained of tiredness and of frontal headache; occasionally also epistaxis occurred. It was a very remarkable circumstance that, on the cessation of the fever, polyuria set in and continued for several weeks; the pale urine, the quantity of which sometimes amounted to 4000 C.C.M. in the twenty-four hours, had a specific gravity of 1006 to 1008. The ordinary sugar-test afforded a negative result. A minute examination in the chemical laboratory showed that it also contained no phosphates. The patient sometimes complained of slight pains in the region of the kidneys. This diuresis disappeared during the last week of his residence in the hospital, when also the nutrition became quite normal, and the patient quite well. On his dismissal on the 10th May, he understood all that was said to him, and could express himself quite correctly, though with a little hesitation, on most subjects. He called about fourteen days afterwards, and there was no alteration in his mental state.

Acute rheumatism, like pneumonia, causes the development of mental disease but very rarely, and we shall have to conceive of the relation which exists between the insanity and the acute disease as somewhat different from that just spoken of. It appears, namely, that these mental disorders ought not to be considered as *sequelæ* or accidents of convalescence, but that they are only a protracted form of that cerebral affection appearing in various forms, and in its acute development often so very dangerous, which frequently appears in acute rheumatism, either simple, or complicated with cardiac inflammations, which leaves behind it no definite anatomical changes, and therefore is most conveniently designated rheumatic cerebral disorder. The acute cerebral symptoms consist here sometimes in acute delirium and maniacal excitement, which may terminate in death or soon disappear (in other, still more serious cases, the symptoms are chiefly those of coma). Sometimes—and these are the cases which now occupy us—under the influence of accessory causes, we see prolonged melancholia with stupor, mania, mental weakness, etc., occur—in short, the development of actual mental disease in various protracted forms, sometimes associated with chorea-like attacks. In these as in the acute cerebral forms of rheumatism, we frequently see the articular affection diminish or even disappear with the appearance of the mental disturbance, and occasionally there is an alternate improvement of the one and aggravation of the other, sometimes even a decided retrogression of the latter on the reappearance of the former.[1]

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[1] See the author's paper "On the Protracted Form of the Rheumatic Cerebral Disorder;" 'Archiv der Heilkunde,' i., 3, 1860, p. 235.

Example V.—*Commencement of insanity during acute rheumatism, with disappearance of the articular affection; mental improvement with return of the disease in the joints; fluctuating state; recovery in about three months.*—E. D—, æt. 50, a very poor unmarried woman, was on the 10th of March, 1857, admitted into the clinique at Tübingen. The following was learned concerning her:—Twenty years ago, after her second confinement she became insane; she, however, recovered after three months, and since then she has given birth to another child without any consequent disorder. For the last ten years she had been in the continuous enjoyment of good health. About four or five weeks ago she suddenly became ill: at first she complained much of toothache; she became feverish, and many of the joints of the upper and lower extremities became swollen and painful—acute rheumatism had set in. About ten days after its first appearance the articular affection disappeared rather suddenly, and at the same time the patient became mentally deranged. She was delirious, understood nothing, attacked those about her; was sometimes very quiet, at others very loquacious; ran about crying all night; searched out all her effects, and threw them about; in short, she behaved in all respects like an insane person. She slept and ate very little, drank a great deal, and occasionally replied in answer to questions put to her that every part of her body was painful.

On admission, the patient, who was very strong for her age, appeared pale: she was perfectly free from fever; had no cardiac affection, nor pain in any of the joints. She was in a state of well-marked melancholia with stupor (melancholia attonita); her look was shy and anxious; she was quite concentrated in herself, and evidently in a state of prolonged dreaming; she spoke very little, and quite confusedly. She continued in this state for two days after her admission. On the second day (12th March) she became more restless, and spoke continuously during the whole of the night. In the morning she spoke generally in rhyme: for example, "God knows what I try for, He sees what I cry for, and He hears my prayer—shall I see Him there?" etc. During the visit, she broke into an outburst of anger, accused those present of having taken her children; she had to be confined in a refractory cell.

On the 14th March, œdema of the lower extremities set in; the patient was free from fever; the pulse calm; bowels constipated; urine free from albumen. During the day she was much quieter, she had numerous hallucinations of a gloomy character; during the night she again became excited. During the following days the œdema of the feet increased, and appeared also in the hands; on the 19th there appeared, together with the œdema, redness and swelling of the finger-joints, which were very sensitive to pressure (only shown by gestures); the right ankle-joint was also very painful on pressure. Percussion and auscultation of the heart and organs of respiration showed not the slightest change; pulse 84, full; skin dry and warm; appetite moderate; bowels regular. The patient lay in bed, was quiet; on being questioned, she generally made no reply—at most occasionally, and slowly, yes or no; the physiognomical expression was that of indifference and apathy; now and then she searched the wall around her bed, and seems quite in a dream (Nitre ʒ ij.). On the following day the pain and swelling of the joints had again almost disappeared; she again became much more restless, very talkative, said that her children were outside and ought to be beheaded, etc. From this date, 20th March, the patient continued in a state which it would be needless to describe day by day. The rheumatic articular affection never attained to any great intensity, but there was frequently a moderate degree of swelling and of pain in certain joints of the fingers and feet; she often complained of pain in the limbs and joints, and of stiffness of the whole body. She was consequently almost always confined to bed, but free from fever; there was never any cardiac disorder; the urine continued non-albuminous; appetite and sleep slowly returned (Colchicum and Opium). Therewith the patient, with numerous interruptions of restlessness, confusion, and loquacity, became gradually more calm and more reasonable, to manifest a more lively disposition, and by-and-by commenced to do a little work. She had not the slightest recollection of the first period of her residence in the hospital. By the middle of April the patient could be considered as quite recovered in mind; for some time after, however, she complained of frequent startings, giddiness, and ringing in the ears; and traces of pain and swelling remained in some of the joints until the beginning of May. These were dispelled by the judicious use of baths, and on the 12th May the patient was dismissed cured.

Example VI.—A delicate lady, 30 and odd years of age, who had hitherto enjoyed good health, was somewhat debilitated by her last confinement, and had a tedious recovery, owing to an attack of articular rheumatism. Modified hydropathic treatment was employed—cold fomentation of the affected parts. The pain and swelling rapidly disappeared, and the limbs became free and movable. But immediately she began to complain of drawing pains along the spine, restlessness and stretching, straining, occasionally jerking movements in the extremities. At the same time there appeared in a few days a state of mental depression, which rapidly increased, and assumed the form of apathy, and finally of complete insensibility. The patient was now confined to bed; felt disinclined to move, to dress herself, and even to eat; she was mute and indifferent to all but very strong impressions; in a short time she presented the characteristic appearance of melancholia attonita. The whole expression seemed less to betray mental pain than complete indifference (even to ordinary personal cleanliness), together with an aversion to all kinds of excitement, which was manifested by strong expressions of displeasure (throwing, striking, etc.). The disease terminated favorably; the patient recovered under the influence of baths containing malt and salt, an issue in the neck, flying blisters applied to the spine, aconite with guaiacum, and afterwards see-bathing.—(Flemming, 'Psychosen,' p. 88.)

Mental disease has also been observed, though very rarely, to originate rapidly after small-pox, measles, and erysipelas—indeed, even after the acute anginas. These resemble the cases occurring after typhus fever and pneumonia. In all these cases, hyperæmia of the brain, and occasionally also thrombosis of the sinuses, may play an important part.

§ 106. 3. *Chronic constitutional diseases* very frequently cause the development of insanity. Of these, we may place in the first series all states of weakness and of anæmia resulting from great loss of blood (in childbirth, for example), from continued hunger and misery, from self-inflicted fasting (religious asceticism of former times), after too prolonged nursing; finally, in consequence of the most various general and local maladies which impair digestion, blood-formation, and nutrition. Anæmia likewise plays a very important part in the production of a number of other neuroses; and we see that, even within the limits of physiology, a bodily condition in which the nutrition is lowered renders more easy a state of irritation in the functions of the nervous system, more or less disturbance of sleep, etc. Of all purely physical causes, I might almost attribute to these very variously modified anæmic states the greatest weight in the production of insanity. This view is confirmed by the fact that, in the great majority of cases, a nutrient and restorative treatment is followed by the best results, while an antiphlogistic system of treatment aggravates the disease. It is evident that the older physicians held the same idea when they spoke of the "asthenic nature" of a great many mental diseases.

The cases of insanity consecutive to acute diseases belong, as formerly remarked, in a great measure to this category, likewise many cases of hysterical mental disease; the peculiarities and caprices of very chlorotic individuals become frequently gradually developed to actual mental disorder. Moreover, it is quite uncertain whether, in all these cases, anæmia of the brain is to be considered as the immediate determinate cause of the insanity; general anæmia may be accompanied by transient and even persistent states of congestion of the brain, and the first is very frequently seen in states of nervous and mental exaltation.

Constitutional syphilis does not readily lead to insanity otherwise than through palpable diseases of nutrition of the skull, of the brain and of its membranes: in this relation, however, it merits very serious consideration. These diseases are periostitis with slight inflammation of the dura mater and delicate membranes, severe chronic meningitis and encephalitis; actual exostoses of the basis cranii have also been found in general paralysis. Headaches of long standing with nightly exacerbation, affection of the nasal bones, superficial tophi on the skull, and the well-known symptoms of constitutional syphilis in other parts of the body, render the diagnosis comparatively simple.

See the article by the author, "Diagnost. Bemerkungen über Hirnkrankheiten" ('Archiv der Heilk.,' 1860, i.), in which a rare case of true syphilitic meningitis with dementia is communicated. Recently the opinion has been advanced, that all the cases of general paralysis of the insane are to be ascribed to syphilis —a very improbable assumption, which, however, may do good by causing in future more attention to be paid to this important etiological circumstance.

Tubercular constitutional disease appears likewise to be sometimes the cause of the development of insanity.[1] Isolated cases, considered as cases of mental disease, even come into asylums in which mental disorder (not generally, however, without more or less coexisting motory affection, sometimes also vomiting, etc.) has been caused by tubercular deposits within the cranium, tubercular meningitis or tuberculosis of the brain-substance itself, or even by slight basilar meningitis of a somewhat protracted type.[2] Cases of recent mental disease presenting indications of contraction of the chest, in which, on examination, pulmonary tuberculosis is discovered, or even only the probable remains of formerly existing tubercles, deserve in this respect the most careful consideration. All these cases terminate fatally within a short time. Ordinarily, however, tuberculosis and insanity stand in another relation to each other, and the insanity appears in its ordinary chronic forms. Sometimes mental disorders appear at the commencement or during the early stages of phthisis pulmonalis, which is frequently not discovered. Even later, concealed from the less attentive observer by the symptoms of the mental disease, it is hardly even recognized by the increasing marasmus and hectic fever. And of especial interest are the cases in which, with symptoms of cerebral congestion, melancholia or mania occurs in individuals who as yet present no certain symptoms of pulmonary tuberculosis; but after the mental disorder has existed for a short time, distinct symptoms of phthisis may be recognized with which the intellect becomes more free and clearer, and the morbid mental symptoms improve or altogether disappear. Generally, in these cases in which the insanity has been cured, the tuberculosis runs a rapid and fatal course: nevertheless, even here a complete arrest (cure) of the tubercular process sometimes takes place.[3] The *rationale* of the production of mental disease in such cases cannot well be explained. The explanations by "crasis" are very properly abandoned. In other cases, also, the insanity appears, for the first time during the later stages of confirmed phthisis, in the form of melancholia, or more frequently as maniacal attacks; occasionally these make their first appearance shortly before death. In the more chronic cases of this kind it generally happens that the leading symptoms of the phthisis, the cough, expectoration, etc., disappear on the outbreak of the mental disease, and even the nutrition slightly improves.

It has not been proved that the insanity which is accompanied by or developed from tuberculosis presents any peculiar character. Jacobi ascribes to it a certain capriciousness, a whimsical fluctuation between extremes. Neumann[4] states that, from the commencement, depression, self-absorption, great irritability and discontent, morosity and tendency to swear, are present, and that at a later period a more gentle disposition is developed: but these characteristics are by no means constant. In diagnosis, the physical signs, in connection with any hereditary disposition, the history, etc., can alone be employed.

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[1] We shall afterwards speak, in the fourth book, of the occurrence of tuberculosis in asylums in those already insane.

[2] L. Meyer, 'Zeitschrift für Psychiatrie,' xv., 1858, p. 713.

[3] Wiener Bericht' (Wien, 1858), p. 55.

[4] 'Psychiatrie,' p. 162.

In a case which came under my observation, the serious cerebral affection with prominent mental symptoms, in an individual in the last stage of phthisis, depended on a large coagulum in the sinus (see 'Diagnost. Bemerkungen über Hirnkrankheiten,' p. 84). The chronic insanity which is developed in the way which we have described in phthisical persons, without palpable disease of the brain, appears rather to be in connection with the general constitutional disease, which produces, in persons predisposed, great nervous irritability, perhaps also with disorders of the circulation within the cranium.

Pellagrous insanity also, which is met with especially in Northern Italy, and, according to recent observers, also in certain parts of France (Rennes, Angers, etc.), appears to depend upon a constitutional disease the special cause of which is still unknown, but which is manifested particularly by an erythematous exanthema, chronic diarrhœa, anæmia, and marasmus.

It is perhaps allowable to doubt the specific nature of pellagra; but I think it right, after the merely passing view of it which I obtained in the asylums of Northern Italy, to abstain from any discussion on this subject. Pellagrous insanity, according to Clerici (1855), consists chiefly in a "vague, incoherent delirium, accompanied by stupor, loss of memory, and by loquacity without special disorder of intelligence or violent excitement;" the melancholic state which predominates for a long time always passes gradually into a state of torpor of all the mental powers, with muscular weakness which greatly resembles general paralysis.

Concerning the origin of mental disorders from the special influence of *gout*, nothing positive can be said. *Cholæmia* appears to have a great influence on the disposition, and we sometimes see acute *icterus gravis* accompanied by violent delirium without any cerebral change. Concerning the influence of cholæmic states on the production of chronic insanity, no definite observations are on record.

§ 107. 4. Among the *chronic local disorders* of the various organs, a certain influence must always be attributed to diseases of the heart, although this circumstance does not seem to act with any special frequency. In the older psychological literature, the influence of cardiac disease is evidently very much over-estimated (Nasse, 1818, and others). Observation shows that in the German asylums there are not many individuals with the ordinary heart affections, such as those, for example, which are produced in acute rheumatism. Certain exceptions are, indeed, more apparent than real. In the interesting reports by Voppel, of the autopsies in the asylum at Colditz,[1] for example, heart diseases appear in rather high proportion; but amongst these there were a great number of aged patients who had been long resident in the asylum, and even slight changes are there minutely noted. It may be that many, even of the most severe, of these heart affections were of long standing, and were connected with the production of the insanity: for the great majority, however, it may certainly be assumed that they were developed during the existence of the insanity.

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[1] In one of these reports, of 75 post-mortem examinations, 12 cases (16 per cent), in another ('Zeitschrift für Psychiatrie,' 1855, xii., p. 392), slight affections of the valves occurred in $\frac{3}{8}$, marked cardiac disease in $\frac{1}{18}$ of the cases; a third report (Günsburg, 'Zeitschrift,' vii., 1856, p. 179) showed also a considerable number.

The same remarks apply to the statements of Tyermann, who, in Colney Hatch, found cardiac or valvular disease in $\frac{1}{4}$ of the female patients. Slight emotional irritability is, it is true, peculiar to many persons affected with heart disease; but we should not therefore conclude that these diseases have a greater influence on the development of insanity than actual observation demonstrates. The diagnosis of heart diseases in the insane during life is rendered more difficult (and the statistics more uncertain) by the fact that, in states of exaltation, cardiac murmurs, especially of the aortic valves, are very frequent without any valvular deficiency ('Wiener Bericht,' 1858, p. 58). Concerning the frequency of diseases of the heart, see also the statistics given in the Fourth Book.

Diseases of the arteries in the form of the so-called *arteritis chronica* (fatty degeneration, atheroma, calcareous deposit, etc., etc.) exert a much greater influence; and part of the action, too, which is attributed to heart diseases ought to be referred to the arterial degeneration which so frequently accompanies them. This degeneration causes disorders of the circulation of the most various kinds—local anæmia from increasing diminution of the calibre of the arteries, encephalitic inflammation, and, as it appears, various changes of nutrition of the cerebral substance, not yet known in detail. Finally, general marasmus, and the early old age which often results from a high degree of atheroma of all the arteries of the body, may contribute in a high degree to the development of mental disorders. Atheroma is frequently met with in the cerebral arteries of the insane; and even when the larger vessels present no marked alteration, the minute branches may be profoundly degenerate. Therefore, statistics of the diseases of the arteries of the brain cannot be given.

Amongst pulmonary affections, a certain pathogenetic influence may perhaps be attributed to *emphysema*. It has seemed to me in certain cases, that the feeling of anxiety and melancholia were connected with the oppression which this affection of the lungs and its development can cause: nevertheless, with the enormous frequency of emphysema, this influence, which so rarely shows itself, cannot be highly estimated; and even here it is possible that the emphysema was but a partial symptom of a general marasmus, which was really the important cause of the origin of the insanity.

In regard to *diseases of the abdomen*, it cannot be disputed that they may give rise to insanity; but the vague diagnosis of the older physicians —disorders of the abdominal nerves, stases in the portal system, infarctus, hæmorrhoidal derangements, etc.—generally represented as of primary importance, do not at all assist us. We ought rather to guard against inferring, without cause, from moderate disorders of digestion and of the bowels, from the sensations produced by the intestinal contents remaining too long in the colon, the dark color of the fæces, etc., the existence of pathological states of which a positive pathology knows nothing. We do not deny that diseases of the liver may impede the circulation, and that also those slight derangements of digestion may sometimes form the media by which especially the injurious influences of the moral causes react secondarily upon the brain; and we can admit with Broussais, as well as the German followers of the infarctus theory, that disorders of the bowels,[1] especially catarrh, may be, in certain cases, the originating causes of cerebral disease, and therefore the objects of treatment. Only it is necessary, on the one hand, to insist upon a minute separation of those intestinal disorders which appear as consequences of an already existing cerebral disease, and those which are really causes, on the other hand, and principally to urge a precise anatomical knowledge and diagnosis of these chronic diseases. All the various organic diseases of the liver, spleen, pancreas, large and small intestine, ought not promiscuously to be ranked amongst bilious diseases; we must remember that as long as a minute anatomical diagnosis is not made in each individual case, we have no certain basis on which to found our opinion as to etiology or treatment, and we must not attribute too much significance to the more palpable but slight disorders of the intestinal canal (hæmorrhoids, for example), which only cause the other more important circumstances to be overlooked. In regard to the theory of cases where changes in the abdominal organs have been found in the insane after death, we must refer to the abundant, especially the older literature on this subject (for example, the work of Buzorini, and the series of dissertations composed at Bonn by Nasse's pupils); again calling to mind the fact that the simple coincidence of these diseases, without any knowledge of the *rationale* of their reciprocal action, is not sufficient to enable them to be considered as causes of the insanity.

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[1] Willis narrates the remarkable case of a young lady whose health had been undermined by prolonged and severe grief. After having partaken of some very indigestible pastry, she was suddenly seized with a burning sensation in the cardiac region; she thought that the upper part of her body was in flames, and ran into the street. She had the idea that she was very wicked, and would be dragged into hell. These ideas always returned when she felt the sensation of burning. Jacobi, loc. cit., p. 667.

Copro-psychiatrie [the secretions of the insane], which has been developed as a peculiar bud from the stem of the "Somatic School," has—partly, indeed, through the first edition of this book—gone out of fashion: it may, nevertheless, perhaps still have some admirers amongst the stragglers of the diagnostic system.

The accounts of cases in which mental diseases were caused by *intestinal worms* (especially tænia), and cured on their removal, would be very interesting and practically useful, if they could only bear a closer investigation. Many of these cases appear very doubtful, others seem rather to refer to a nervous excitement maintained by anæmia than to actual insanity; in these cases, after removal of the parasites, the nutrition was improved and the functions of the nervous system restored.

The case communicated by Morel, 'Etudes cliniques,' i., p. 293, may be viewed in this light.—Esquirol has observed two cases. Other cases have been communicated by Girardin, Ferrus (' Académie de Médecine,' September 23d, 1834), Wood ('Lancet,' January, 1851), and others.—Even congenital dementia is said to have been cured by the expulsion of worms!

Diseases of the kidneys and the anomalies with which we are as yet acquainted of the urinary secretion do not appear to be of great importance in the etiology of mental diseases. Some cases may be mentioned[1] in which the insanity probably had some connection with an affection of the kidneys; but these cases must be very rare, and it is impossible to give any particulars regarding them. No one would rank the cerebral symptoms in Bright's disease amongst the mental diseases: Bright's disease, to which any etiological relation to insanity could be attributed, is very rare in the insane, although the slighter forms of renal disease, so often present in those suffering from marasmus, etc., are as frequent in asylums (in general paralysis, wasting diseases, etc.) as elsewhere.

Neumann has related a case of insanity which originated along with *diabetes* ('Psychiatrie,' p. 163). In *Addison's disease* there is generally great depression of sentiment, but no case of actual mental disease is known to me.

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[1] Royer, 'Malad. des Reins,' i., 1839, p. 523; Friedreich, 'Allgemeine Pathologie,' etc., p. 402.

It is, at all events, very problematic whether *skin diseases* have any pathogenetic influence on mental disorders. We have nowadays become very sceptical about the older reports of insanity originating from the rapid healing of exanthems or ulcers of the skin. General paralysis sometimes commences with erysipelas of the scalp, but it is very doubtful whether the exanthem has any connection with the cerebral disease which succeeds it.

§ 108. 5. On the contrary, *certain diseases of the genital organs*, and the pathological influences generally which arise from them, have in both sexes an important influence. During the period of sexual development, particularly where there are morbid states of these organs, insanity frequently arises which still presents the principal characters of the mental disorders of childhood. There frequently occur in these cases complications with epilepsy, or chorea, or states of somnambulism—capricious melancholy, or attacks of mania with suspicion.

Cases occur, but only exceptionally, where non-satisfaction of the sexual functions and continence ought to be considered as the chief causes of the insanity. A certain co-operation of this circumstance is, however, especially in the female sex, not unfrequent, and it may be this which gives a certain definite color to develop insanity, inasmuch as the long-repressed desire now readily shows itself as amorous and sexual delirium, sometimes ideal, sometimes unconcealed.

In the *male sex*, all those disorders of the sexual functions which are designated involuntary seminal emissions, *pollutio diurna*, etc., are of great importance. These anomalies, in which evidently the loss of the seminal fluid is in but few cases the main point, frequently depend, as Lallemand has shown, on local diseases of the urethral mucous membrane, the seminal vesicles, etc.; in other cases the disorder proceeds rather from the nervous system: ordinarily, they are preceded for a long time by increased sexual irritability (excessive pollutions), which is less a cause than a symptom of the already existing irritation. Once developed, these anomalies manifest themselves by considerable decrease of the sexual feelings, diminution of erection, impotence, combined with all possible kinds of sensitive and mental perversions, which sometimes represent actual hysteria, sometimes profound hypochondriasis.

I, many years ago, prompted by the writings of Lallemand,[1] directed my attention to this point in a number of insane male patients—a delicate investigation, as the patients are generally very cunning in this respect, and their statements are not to be depended on: moreover, great caution is necessary, in order not to direct their attention too much to this subject. In only one case could I succeed in proving microscopically the fact of decided pollutio diurna at defæcation; but I certainly convinced myself that, in a much greater number of cases than I had supposed, a diminution of the sexual sensations and desires, generally very appreciable to the patient, and sometimes also actual impotence, had for a long time preceded the development of the insanity. In such cases it can very rarely be ascertained with certainty whether these symptoms were the consequences of the anterior sexual excesses and abuses, or of the depressing emotions which had also acted as causes of the insanity—whether they were actually the first symptoms of the melancholic stage, or depended upon local diseases of the genital organs. In two instances where the latter decidedly appeared to be the case, I had recourse to the treatment recommended by Lallemand, viz., cauterization of the prostatic portion of the urethra—in the one case without any appreciable influence on the disease, in the other the operation removed various disagreeable sensations in the genital organs of which the patient complained[1] (sensations of constant currents of heat, etc.), but did not produce any rapid favorable influence on the insanity.

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[1] 'Des Pertes séminales :' see reports of cases, and 'Résumé,' iii., p. 127–200. Lallemand's statements and opinions on these points have met with much opposition, and in truth they present many weak points. But that which now concerns us, viz., the fact that many hypochondriacal and melancholic states are in connection with local disorders of the male genital organs, he has well succeeded in proving.

Lisle ('Académie de Méd.,' Mars, 1851, and in a subsequent work) has published a number of observations in which mental disease appeared to originate from spermatorrhœa. The insanity was specially characterized by the following appearances:—all kinds of chronic peculiar and irregularly manifested bodily troubles, melancholic perversion, tendency to suicide; feebleness of the intelligence, and especially of the emotions and will; great indecision, etc.: further, remarkable sensibility, distrust, tendency to consider himself mocked by every one. The microscope alone can confirm the diagnosis, and all treatment is useless so long as the spermatorrhœa continues; when it ceases, the mental disease generally rapidly disappears.

In the *female sex*, menstruation and all its disorders exercise great influence on the development and course of mental diseases. The most simple, but at the same time the most rare, cases are those where, in persons who have been hitherto healthy, there occurs, after sudden cessation or suppression of the menses, acute violent hyperæmia of the brain, and immediately therewith an outbreak of mental disorder, generally mania with active cerebral congestion. More frequently, indeed, the cessation of the menses precedes the insanity, but does not stand in so direct a relation to it; it is rather to be considered as a result of the persistent emotional depression, as a co-symptom of an existing anæmic state, of other chronic disease, or of a generally depraved state of the constitution: all which conditions are themselves more important causes than the metastasis. On the other hand, menorrhagia resulting from anæmia and general lowering of the nutrition may be a cause of insanity as well as of any other neurosis. Frequently, however, irregularities of menstruation first appear with the commencement of the mental disease, in the same manner as they may occur in any other chronic disease; and we may also frequently observe during recovery from insanity that it does not follow upon the return of the menses, but the reverse—the return of the menses follows upon the already accomplished cure of the mental disease. When menstruation continues during the mental disease, as it often does without the least derangement, it is not unusual to observe, with each return of the period, increased excitement, general increase of the mental disorder. In rare instances, insanity simply periodic, lasting during the menstrual period with complete lucid intervals of several weeks' duration, has been observed.

The period of the first appearance of the menses often brings with it, together with headache and all sorts of nervous affections, disturbances of the feelings and emotions which may proceed to delirium and to mania. Still more frequently the latter occurs, or other forms of insanity appear (as melancholia with stupor, suicide), in cases where menstruation is for a long time morbidly retarded, or even has not appeared; some cases of the kind pass in incurable insanity or dementia. It is well known that most females are very sensitive, very peevish and nervous, at the menstrual periods. All causes of disease, especially moral causes, act more powerfully at these times; and in many persons who enjoy perfect health during the intervals, there may be observed, during the periods, a perversion of sentiment bordering on disease, sadness, hypochondria, or capriciousness. In many of the insane, the mental disease becomes increased in these times, sometimes to mania, sometimes to nymphomaniacal forms accompanied by cerebral congestion, and suicidal patients require to be carefully watched. These should be considered as cases of nervous irritation of the brain proceeding from the genital organs; if the loss of blood has been profuse, the irritation will be the more increased. The connection between the menstrual disorder and the insanity appears to be most intimate in those cases of suppression of the menses which we mentioned first of all. Here, too, recovery takes place with the return or regulation of menstruation, and here alone is appropriate emmenagogue treatment indicated and necessary: to this category alone belong also those rare cases in which recovery from the insanity occurs immediately after the return of the menses. Dysmenorrhœa is ordinarily accompanied by those nervous affections which are understood by the name *hysteria*; these are often principally cerebral. The period of the cessation of the menses often exercises a very favorable, even occasionally a curative, influence on the existing mental disease: more frequently, however, it exerts an unfavorable influence, so that the hitherto more variable and irritable forms become fixed, and pass into chronic mania and dementia. Those cases also which make their first appearance at this time of life, often melancholia, are generally of an unfavorable character.

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[1] Cooper, in his Lectures, mentions a case in which a large number of prostatic calculi were removed by means of operation. These calculi did not only cause pain, but a continuous emotional excitement bordering on insanity.

The influence of menstruation is treated of in two excellent recent papers: Brierre, 'Annales Méd. Psychol.,' 1851, iii., p. 574, and Schlager, 'Zeitschrift für Psychiatrie,' xv., 1858, p. 457 (this paper may also be found in the Report of the Vienna Asylum, Wien, 1858, p. 140).

The *local diseases of the uterus*, ovaries, and vagina (ovarian cysts, displacements of the uterus, uterine catarrh, ulcers of the cervix, etc.) are generally followed in the first place by well-marked hysteria, which then may gradually pass into insanity. This insanity often presents distinct traces of its origin in its general hysterical character, or in certain morbid conceptions (for example, the idea of pregnancy).

Whether it be the case or not, the possibility of the existence of such local disease in female patients ought always to be kept in view, and on the least suspicion a minute examination should be made. It is certainly of great detriment to the patients that there exists at the present time amongst asylum physicians a truly childish delicacy in regard to vaginal examinations and the use of the speculum. In Germany, France, and England, I have found the same delicacy; they seem afraid of exciting the patients, of awakening or increasing certain delirious ideas, just as long ago, for similar reasons, they were afraid to auscultate: such subordinate consideration ought not to be regarded when it interferes with what is the only means of arriving at a correct diagnosis, and therefore a proper system of treatment. The light which we gain by the speculum, and which so frequently elucidates hysteria, can alone clear up much in connection with that insanity which is so closely allied to hysteria! I have myself observed in private practice certain very successful cases of recovery from hysterical insanity by means of local treatment of the genital organs, after all other means had failed. Brosius ('Med. Centralzeitung,' 1858, 27) relates two cases of recovery from simple acute melancholia in consequence of local treatment of diseases of the genital organs. Flemming ('Psychosen,' p. 194) saw two cases in which prolapsus uteri accompanied by frequent hæmorrhages gave rise to attacks of rage and maniacal excitement, which ceased when the prolapsus was permanently retained by means of a pessary; in one case the untimely removal of the pessary was followed by a return of the mental disorder. Concerning uterine displacements as causes of insanity, see the remarks of L. Meyer, Virchow's 'Archiv,' ix., p. 108.

§ 109. But of all the influences which arise from the female sexual system, *pregnancy*, and still more the *puerperal state* and *lactation*, are the most important. Of these, *pregnancy* is most rarely followed by developed insanity in the form of profound melancholia or mania; more frequently it causes merely a state of moderate depression, which is sometimes evidently the first stage of subsequent puerperal mania. The direct moral influences, especially the various emotions, which accompany a first pregnancy, may be of great importance in those previously disposed to insanity. An influence not less great ought in other cases to be ascribed to the states of congestion and of anæmia which are so frequently developed during pregnancy.

Slight mental disorders, hysterical humors, irresistible longings, foolish jealousy, and kleptomania, are during pregnancy more frequent than fully developed insanity. Cases occur in which the mental disorder appears in a certain form in each pregnancy; on the contrary, cases—I myself know of one, and Guislain ('Leçons orales,' ii., p. 275) mentions one—in which an existing slight or severe mental affection disappeared during each pregnancy, so that the individuals were in possession of their reason only when they were pregnant. We may assume that in such cases the cerebral disease is sympathetic, dependent upon some (slight) probably mechanical affection of the generative organs, which—and with it the evil influence which it exercises on the cerebral functions—always disappears when conception takes place. Insanity may also commence during the first months of pregnancy, more frequently it makes its first appearance in the latter months; it occasionally disappears with the delivery, or it may be not till a later period, till the return of the menses, but we cannot calculate with certainty on this being the case—it may also continue and become incurable. When one who is already insane becomes pregnant, it is only very expectionally that it exerts a favorable influence on the insanity; and this can only be expected in recent cases, and such as depend on diseases of the generative organs themselves. Sometimes the existing insanity ceases with conception, but returns after delivery. Most commonly the mental disease is only rendered worse, and incurability accelerated. See Marcé, 'De la Folie des Femmes enceintes,' etc., Paris, 1858.

Even during *delivery*, and from that time during the whole course of the puerperal state, severe mental disorders may arise, the comprehension of which under the term puerperal insanity, according to the form of the insanity, does not seem to be very correct, as they have in regard to symptoms both something altogether distinct from ordinary insanity, and amongst themselves possess many peculiarities in common: still, in relation to the peculiar circumstances of the origin, the term is quite justifiable. In a practical point of view, a minute separation of these cases is always necessary.

During *the act of delivery*, there occasionally occur states of great excitement and mania; indeed, it has even been observed that with each pain there occurred a violent outbreak of fury. The pain, the very great general nervous excitement, and the evident congestive states, lie at the foundation of these disorders; they occasionally manifest themselves in great enmity towards the child (sometimes killing it), do not continue for longer than a few hours or a day, and are very important in a medicolegal point of view.

Amongst the mental disorders which appear subsequently to, but generally within fourteen days after delivery, the one may be considered as the symptomatic delirium of other serious puerperal diseases—endometritis, phlebitis and pyæmia, consecutive endocarditis (? Kiwisch), etc.; cases in which the cerebral affection ought to be ascribed partly to the injurious effect of the purulent infiltration, partly to the evident cerebral congestion—in which the mental disorder shares the (critical) prognosis of the principal disease, in general it persists or ceases with it; in certain cases, however, it may continue for a long time after recovery from the puerperal fever.

In another series of cases, on the contrary, insanity is developed without the existence of any other serious puerperal disease; a cerebral disease which, independent from the commencement, is either in the form of melancholy, especially of raptus melancholicus, or, especially if a state of mental depression has existed during pregnancy, or one of excitement, and frequently of nymphomaniacal delirium. These are, above all, the cases which afterwards pass into persistent insanity—of, however, on the whole, not unfavorable prognosis. They appear particularly in individuals already predisposed under the influence of all kinds of determining causes, of which the depressing emotions,[1] on the one hand, and anæmia, owing to great hæmorrhage during delivery, operations, etc., on the other, are evidently the most important.

The first symptoms of the mental disorder in cases of the latter kind appear sometimes very soon after the birth of the child, or on the third or fifth day with the milk fever; most frequently, at all events, in the first, then in the second week—at latest four weeks after delivery. Great loss of blood, likewise emotions, are often the exciting cause; hereditary predisposition, great nervous irritability, great emotional susceptibility during pregnancy, from important predisposing circumstances (Reid in Bedlam—1848—found in 111 cases of puerperal insanity, hereditary predisposition in 45). The most frequent forms are maniacal excitement, then melancholia (frequently attonita).

Amongst 131 cases in Bedlam (Webster), tendency to suicide existed in 41 (31 per cent); in mania the prognosis is more favorable than in melancholia. On the whole the prognosis of puerperal insanity is very properly considered as relatively favorable; still, the curability of this form is frequently over-estimated: in Bedlam, of 181 cases, 81 were cured (41.83 per cent), while during a space of twenty years in the same asylum the proportion of recoveries from insanity in general was 53.67 per cent (Webster). Recovery occurs most frequently within the first three months; sometimes we see, under the symptoms of puerperal mania, an already existing tuberculosis proceed with great rapidity after childbirth, and terminate in death. Simpson (1853) thought it probable that the use of chloroform in obstetric practice might prove a prophylactic against puerperal insanity. Not only has this assumption not been confirmed, but cases have occurred in which the use of chloroform appeared to determine the outbreak of the mental disease (Webster).

See Esquirol, 'Maladies Mentales,' i., cap. 5; Schneider, ' Ueber Mania lactea," in Nasse's 'Zeitschrift für Anthrop.,' 1823, p. 163; Neumann, 'Krankheiten des Vorstellungsvermögens,' 1822, cap. 14; Kiwisch v. Rotterau, 'Die Krankheiten der Wöchnerinnen,' ii., 1841, p. 228; Helm, 'Monographie der Puerperalkrankheiten,' 1840, §§ 28, 46, 53, 75; Sinogowitz, 'Die Geistesstörungen,' 1843, § 25; Leubuscher,' 'Verhandl. der Gesells. für Geburtshülfe,' Berlin, 1846, p. 94; Macdonald, 'American Journal of Insanity,' iv., 1847, p. 113; Webster, 'Journal of Psychological Medicine,' 1849; Ideler, "Die Vesania puerperalis," 'Charité Annalen,' ii., 1, 1851, p. 122; Weill, 'Consid. sur la Folie puerpérale,' Diss., Strasb., 1851; Marcé, 'Traité de la Folie des Femmes enceintes,' Paris, 1858.

Finally, as to the influence of *lactation*, it is well known that weakening of the constitution through prolonged nursing is a cause of all possible forms of severe neuroses; and it is especially severe or persistent emotions, moral predispositions, etc., which give rise to this form of cerebral affection—puerperal insanity.

From this enumeration of the causes of insanity, the general doctrine may have been deduced that everything which lowers the nutrition, all true states of weakness, and further that all circumstances which over-excite the nervous system, which favor congestion of the nervous centres—in short, all which has as a result the development and fixing of the nervous constitution, may become causes of insanity. We shall again revert to this subject when we come to speak of the treatment of mental diseases.

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[1] See Esquirol, i., pp. 141, 142.

BOOK THIRD.

FORMS OF MENTAL DISEASE.

§ 110. A CLASSIFICATION of mental diseases according to their nature—that is, according to the anatomical changes of the brain which lie at their foundation—is, at the present time, impossible (§ 6). But, as the whole classification of mental diseases is merely a symptomatological one, so that we recognize the different *forms* of insanity only by their presenting different groups of symptoms, instead of the anatomical principle of division, we must adopt the functional, the physiological; and this is—as the disorders of the understanding and will are the principal and the most striking—also a psychological basis. Insanity is, therefore, to be divided according to the form and nature of the psychical anomalies. But whilst it is the aim of clinical instruction to render conspicuous and to analyze the multiplicity of mental disorders in the concrete, nosology must content itself with establishing fewer principal groups of mental disorders, fewer *fundamental abnormal states,* which result from the agreement of a great number of cases in certain characteristic signs, and to which, therefore, all the varieties of individual cases may be referred. It is these fundamental conditions and their symptoms that we have here principally to describe; and although all the varieties which they may present and their reciprocal transformations must indeed be considered, our limits do not permit us to enter into exhaustive details. Even that fusion of normal and abnormal mental appearances on which the varieties, intermediate states, and transitions depend, constitutes one of the most interesting objects of clinical study. It cannot, however, be minutely followed in the short expositions of a text-book.

The analysis of observations leads to the conclusion that there are two grand groups or fundamental states of mental anomalies, which represent the two most essential varieties of insanity. In the one, the insanity consists in the morbid production, governing, and persistence of *emotions* and *emotional states,* under the influence of which the whole mental life suffers according to their nature and form. In the other, the insanity consists in disorders of the intellect and will, which do *not* (any longer) proceed from a ruling emotional state, but exhibit, without profound emotional excitement, an *independent,* tranquil, *false mode of thought* and of *will* (usually with the predominant character of mental weakness). Observation shows, further, that in the great majority of cases, those conditions which form the first leading group *precede* those of the second group; that the latter generally appear only as consequences and *terminations* of the first, when the cerebral affection has not been cured. There is, moreover, again presented within the first group, in a great proportion of cases, a certain definite *succession* of the various forms of emotional states, whence there results a method of viewing insanity which recognizes in the different *forms*, different *stages* of one morbid process; which may, indeed, be modified, interrupted, or transformed by the most varied intercurrent pathological circumstances, but which, on the whole, pursues a constantly progressive course, which may proceed even to complete destruction of the mental life. By means of this knowledge, most distinctly expressed by Zeller, it is now possible, from the nature of the symptoms, to approach much more closely to the problem (which ought always to occupy the foreground) of an anatomico-pathological knowledge and diagnosis of mental diseases.

Pathological anatomy shows us, even at present, that in the first group, or in the first stages of insanity, it is rare to find important organic alterations, or such as are not capable of complete removal; whilst in the second group, or in the terminal stages, very often there exist palpable organic changes which are incapable of cure—particularly atrophy of the brain more or less extensive, with œdema of the membranes, and chronic hydrocephalus. We may say, then, that those cerebral lesions which give rise to the first stages of insanity—lesions which are certainly not always of an identical nature, and which we, as yet, cannot generally characterize anatomically—have this in common, that they terminate in very many cases in those characteristic consecutive changes in the brain which we have spoken of as a stage of permanent anatomical lesions.

Consequently, the simple symptomatological, the psychologico-analytical method, and the anatomical manner of investigation, come all to the same practically important conclusion, that insanity is a *curable* disease only so long as it is confined to the first group of *primitive* (emotional) mental disorders, and that it becomes *incurable* with the development of the secondary lesions which constitute the second group. That first series includes the forms of melancholy, mania, and monomania; the second, the forms of chronic mania and dementia.

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[1] "Zeit. Bericht, etc.;" 'Med. Correspondenzbl.,' Juli, 1840.

CHAPTER I.

STATES OF MENTAL DEPRESSION—MELANCHOLIA.

§ 111. THE fundamental affection in all these forms of disease consists in the morbid (§ 37) influence of a painful depressing negative affection—in a mentally painful state. This state may, at the outset, in the simplest and the most primitive form of melancholia, continue in the form of a vague feeling of oppression, anxiety, dejection, and gloom; generally, however, this obscure vague feeling of annoyance passes into a single, concrete, painful perception; there arise thoughts and opinions in harmony with the actual disposition of mind, and without external motive (false ideas)—a veritable delirium, revolving constantly upon some tormenting and painful subject, while at the same time the intellect presents some anomalous forms, is restrained in the exercise of its freedom, becomes slow and sluggish, and the thoughts monotonous and vacant. The normal reaction towards the external world is either weakened and blunted (mental anæsthesia, indifference even to actual stupor), or exaggerated in such a manner that all mental impressions are painful (mental hyperæsthesia); and very often these two forms are found in the same patient alternating with each other. Many disorders of the emotion and of the will are moreover associated with this. Their varieties form a basis for the distinction of the several principal forms of melancholia. Sometimes volition is directly diminished and weakened, at other times it is convulsively restricted (absence of energy and of will); at others there appear certain desires and impulses of will to which material and object are afforded by the morbid mind; or, lastly, a high degree of moral pain excites various impulses of an aimless convulsive character, which manifest themselves in extreme restlessness, the continuance and increase of which cause these forms of melancholia to assume a different character, and to pass into quite another variety of that of mania.

In employing the term "states of mental depression," we do not wish to be understood as implying that the nature of these states or conditions consists in inaction and weakness, or in the *suppression* of the mental or cerebral phenomena which accompany them. We have much more cause to assume that very violent *states of irritation* of the brain and excitation in the mental processes are here very often the cause; but *the general result* of these (mental and cerebral) processes is depression or a painful state of mind. It is sufficient to recall the analogy to physical pain, and to those who imagine that they make things better by substituting "*cerebral torpor*" and "*cerebral irritation*" for "depression" and "exaltation," it may fairly enough be objected that in melancholia there is also a state of irritation.

Observation shows that the immense majority of mental diseases commence with a state of profound emotional perversion, of a depressing and sorrowful character. Guislain was the first to elucidate this highly interesting fact, and make it at all serviceable. Of its general correctness there is no doubt, and we can have no hesitation in speaking of the "*stadium melancholicum*" as the initiatory period of mental disease. Of course there are exceptions.[1] Thus, in senile dementia, in periodic mania, in meningitis, in the mental diseases consecutive to typhus fever, pneumonia, cholera, sun-stroke, etc., the outbreak of mania is generally observed without being preceded by melancholia; but the cases are much more frequent in which this *stadium melancholicum* only *appears* to be absent because it was less intense, and was not then recognized as a stage of mental disease.

The "*stadium melancholicum*" which precedes insanity is by some physicians designated as the period of incubation, or "prodromal stadium;" and, in their opinion, the outbreak of the disease dates only from the time when the patient is no longer able to control his actions. This limitation is to a certain extent arbitrary, but the circumstance that the stage of incubation has almost always a depressive character is interesting and of great importance.

The melancholia which precedes insanity sometimes appears externally as the direct continuation of some painful emotion dependent upon some objective cause (moral causes of insanity), *e. g.*, grief, jealousy; and it is distinguished from the mental pain experienced by healthy persons by its excessive degree, by its more than ordinary protraction, by its becoming more and more independent of external influences, and by the other accessory affections which accompany it (see further on). In other cases the melancholia originates without any moral cause, though most frequently there are such, but it does not originate as their direct continuation, but only shows itself after these affections have wrought considerable disturbances in the functions and nutrition of the nervous system, or have undermined the entire constitution.

SECTION I.—*Hypochondriasis.*

§ 112. The hypochondriacal states represent the mildest, most moderate form of insanity, and have many peculiarities which essentially distinguish them from the other forms of melancholia. While they, of course, share with the others the generic character of dejection, sadness, depression of mind, diminution of the activity of the will, and of a delirium which corresponds to this mental disposition, they yet differ from them in this characteristic manner—that in these states the emotional depression proceeds from a strong *feeling* of BODILY *illness* which constantly keeps the attention of the patient concentrated upon itself; that, consequently, the false opinions relate almost exclusively to the *state* of *health* of the subject, and the delirium turns constantly upon apprehensions of some grave malady—upon unfounded and curious ideas regarding the nature, the form, and the danger of this his disease. This feeling of bodily illness is sometimes general and vague, sometimes it resolves itself into particular anomalous and disconnected sensations. It often depends on irritation of the nervous centres arising from peripheral disease—often very obscure and concealed—of the viscera. It is also frequently provoked centrally under the direct influence of moral causes—*e. g.*, reading medical books, frequent contact with hypochondriacs.

These morbid sensations are always increased through the direction of the attention to them; and when the disease has attained a certain degree of development, such may, through direction of the attention to this or that organ, be awakened, displaced, and called forth anew in each organ of the body in succession. As to the part which the intellect plays in this disease, it may be said that, in spite of this emotional disorder and of the false conceptions, the association of ideas is usually unimpaired; the abnormal sensations and ideas are logically connected throughout: and justified by reasons which are still within the bounds of possibility. And just because of this absence of actual derangement of the understanding, hypochondria appears to be essentially a *folie raisonnante melancholique*, the antithesis of which—the ordinary so-called monomaniacal *folie raisonnante*—we shall in find the states of mental exaltation.

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[1] Guislain himself knew of such exceptions ('Leç. orales,' ii., p. 162); and he compares them to cases of intermittent fever, where the cold, hot, and sweating stages did not follow precisely the usual course.

We recommend the thinking and intelligent reader to verify for himself the analogy which results from the comparison of these two forms of the morbid states and feelings. Hypochondria really finds no other suitable place in nosology than among mental diseases, among which Sauvages and Cullen have long ago ranged it, and since then Pinel, Georget, and Falret. It is also the natural consequence of the symptomatology of the affection. It is a perversion of sentiment which may go to the slightest or the most extreme degrees without essentially changing the character. The hypochondriac, it is true, may reason correctly—setting out from false premises; but this does not in the least invalidate the fact that hypochondria is a mental affection, any more than that because hypochondria often accompanies or complicates various chronic diseases seated in different organs, it ought on that account to be identified or confounded with these diseases.

§ 113. *Symptoms.*—The disposition of the patient begins to change without any assignable cause. He becomes dejected, peevish, suspicious, exhibiting more extreme sensibility and a disposition to connect everything with himself. Everything wearies him, and he is very easily fatigued. At the commencement, this state experiences many remissions; and the paroxysms assume the form of an irritable, restless, and distrustful disposition, or of a mental apathy, which may go so far as to produce weariness of life, or anxiety which may proceed to despair and loss of self-control. An undefined yet vivid feeling of illness torments and annoys the patient in an obscure sort of manner. All the parts of the sensory nervous system may be the seat of morbid sensations, often very painful (formication, heat and cold, crawling about of a foreign body—as if his head would burst—as if he were empty, dead, pierced, torn in pieces, etc.). And the higher senses also often present an exaggerated sensibility or great bluntness, and actual hallucinations. All these anomalous sensations urge themselves vividly into the consciousness, awaken and maintain an idea which relates to the disease in all its various possible forms and means of cure. All sensations are watched, and seriously commented upon and analyzed in the sense of the ruling gloomy and anxious frame of mind. From these the patient concludes that he is the subject of very serious and dangerous diseases; and often he expresses his fears with an exaggeration of which he himself is half aware, and in the most graphic and ludicrous language. The patient who exhibits only the most insignificant symptoms of disease, speaks of apoplexy—asserts that he is half dead, that his heart is dried up or petrified, his nerves are burning coals, his blood is boiling oil, etc. He willingly allows that he is the subject of serious disorders, or of entire new diseases which have never before existed, because the gravity and danger of the disease is in proportion to the intensity of the feeling which annoys him. Whenever the morbid sensations change their situation and nature, the ideas regarding the seat and the nature of the disease also change, and the patient believes himself to be successively attacked with all the diseases whose pathology he knows. So much do these ideas constitute a true delirium, so false and purely imaginary are they, and so little do the sensations which serve as their basis seem to be connected with them, that they may be regarded essentially as mere *attempts at explanation.*

We therefore find here exactly the same origin—the same objective groundlessness and subjective foundation of the delirious conceptions as in the other forms of melancholia and more advanced insanity. Take from the hypochondriac his morbid sensations, and he will no longer be afflicted with his imaginary diseases; cause the feelings which agitate and torment the melancholiac in another way to disappear, and no longer will he believe himself to be pursued by his enemies, etc. In melancholia the abnormal feelings which precede the delirium are as real, and, at least at the commencement, the same unstableness, the same abrupt change in the delirious perceptions prevails as in hypochondria.

§ 114. The hypochondriac, constantly preoccupied with his afflictions, seeks by every possible means to penetrate them. He often feels his pulse, examines his tongue and his excretions, and frequently discovers in these investigations causes for fear or hope, which he sometimes, though the details may be very disgusting, takes a sort of pleasure in communicating to everybody. The great desire to be cured induces him frequently to change his physician and his treatment. He seeks for instruction by reading medical books, and often changes his opinion regarding the nature of his malady, inasmuch as he applies to his own case all which he reads or hears of. The mere mention of a disease is sufficient to start the notion that he himself labors under it; and, influenced by this idea, he now discovers in the corresponding organs phenomena which he had never before experienced.[1]

But not always is it the fear simply of ordinary bodily diseases which occupies the attention of the hypochondriac, and is the object of his anxiety. Frequently the mental element in his malady does not escape his notice, and the complete change of his personality, the *possession* of morbid sensations and ideas, especially, however, a certain anomaly (already noticed § 50), particularly in the mental sphere, in the sensorial sensations, whereby these, although perceived as formerly, no longer produce the same impressions, frequently form the great subject of his complaint.

This last and very remarkable state, which the patients themselves have much difficulty in describing, which we also have ourselves observed in several cases as the predominant and most lasting symptom, is as well as possible described in the following letter of one of Esquirol's patients:

"I still continue to suffer constantly; I have not a moment of comfort, and no human sensations. Surrounded by all that can render life happy and agreeable, still to me the faculty of enjoyment and of sensation is wanting—both have become physical impossibilities. In everything, even in the most tender caresses of my children, I find only bitterness. I cover them with kisses, but there is something between their lips and mine; and this horrid something is between me and all the enjoyments of life. My existence is incomplete. The functions and acts of ordinary life, it is true, still remain to me; but in every one of them there is something wanting—to wit, the sensation which is proper to them, and the pleasure which follows them. . . . *Each of my senses, each part of my proper self, is as it were separated from me and can no longer afford me any sensation;* this impossibility seems to depend upon *a void* which I *feel in the front of my head, and to be due to the diminution of the sensibility over the whole surface of my body, for it seems to me that I never actually reach the objects which I touch.*

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[1] One cannot help being struck with the remarkable similarity between this process and the production of hallucinations in general.

. . . *I feel well enough the changes of temperature on my skin*, but I no longer experience the internal feeling of the air when I breathe . . . *my eyes see and my spirit perceives, but the sensation of that which I see is completely wanting,*" etc.

The psychical changes, too, which occur in the sphere of the will, are, in the majority of instances, very striking. The patients become dejected, thoughtful, indecisive; in the higher grades volition is altogether absent. "I wish that I could be more determined, that I could persevere longer; but to do this depends no longer upon myself. I feel that if I could will, I might rescue myself from this desperate situation, but I am obliged to yield to my painful sensations. I feel myself incapable of everything, and the smallest obstacle appears to me insurmountable," etc. These are expressions which may frequently be heard in the higher degress of hypochondria, as well as in all other forms of melancholia.[1] In the more advanced stage of this disease, the *intellect* also suffers not only in the manner of which we have been speaking, but the constant direction of the thoughts to the special state, and the means which might possibly aid him impart likewise to the perception a certain monotony, and in consequence of this ruling preoccupation of the consciousness, everything that does not fall within this circle of ideas is without the slightest interest, of perfect indifference, and is very speedily effaced from the memory. Hence it is that such patients are often in the highest degree absent and forgetful. They are very loquacious upon the one subject of their affection, but are little inclined to speak on any other theme; and those are never severe cases of hypochondria where the patient is still amiable and can be an interesting companion. But the intelligence and acumen which the patient often displays in fine combinations upon his favorite theme may still remain intact as also in regard to objective relations. It is only in the most extreme grades of hypochondria that any actual diminution in the intelligence is observed in a form of dull and morose dementia which renders the sufferer almost incapable of any intellectual exertion.

In the aggregate of these mental disorders which collectively have the character of depression, hypochondria shows itself as a form of melancholia. Although in general, on account of the peculiar nature of these delirious conceptions, and of the much greater command which the patient has over himself, hypochondria may be regarded as to a certain extent specific, yet that ruling tendency which the patient has to connect and to compare everything with himself, the limitation of the perception to the special *I*—this morbid egotism is an essential characteristic corresponding to the concentration in self of the melancholic states in general, and occasionally, at the commencement of the melancholic perversion, it is more by chance that the body and not external objects becomes the object of the morbid mode of thought. The higher degrees of hypochondria, too, gradually pass, partly through increase of the feeling of anxiety, partly through the fixing of certain attempts at explanation, not only into true melancholia, but even complicated with delusions (ideas of being surrounded by an invisible agency, of being the victim of evil machinations, influenced by magnetism, etc.). That considerable degree of self-control also which hypochondriacs still possess, often disappears during each exacerbation. Could the physicians only observe these paroxysms as freely as they can at any time in severe cases in asylums, all doubts concerning the mentally morbid nature of hypochondriasis would very soon disappear.

§ 115. Besides these mental disorders and anomalies of the sensations which we have mentioned, there may occur in almost all hypochondriacs innumerable morbid symptoms in all the various organs, and that old comparison of hypochondria to a chronic derangement involving the whole nervous system with fever, as the most general acute stage of the disease (Hoffmann), is by no means a bad one. Thus, for instance, very frequently the digestion suffers, the tongue is loaded, the appetite is immoderate or diminished, the bowels are constipated, and digestion is accompanied by a considerable development of gas, whereby tension is produced in the hypochondriac regions, pushing up of the diaphragm and causing a feeling of oppression. Such persons are frequently afflicted with hæmorrhoids, abdominal pulsations, palpitations of the heart, cerebral congestion, headaches, disturbed sleep; very often they have an abundant mucous expectoration from the larynx and throat. In many cases it is impossible to decide whether and to what degree these very variable symptoms are due to such primary disorders of the viscera under the influence of which the hypochondria has arisen, or how far they are due to some central cause in the nervous system. The physician has always to make a most careful examination of all the accessible organs. Not unfrequently we see, during the course of the mental disease, some visceral affection gradually make its appearance which, in its obscure commencement, may be etiologically connected to the hypochondria.

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[1] See a capital example of absence of volition in hypochondria by Leuret, 'Fragmens,' p. 382.

It is evident that hypochondria may arise in two different ways. In the first place, as a secondary cerebro-spinal irritation, in consequence of internal, but of course often slight, diseases (of the intestinal canal, of the liver, of the genital organs, perhaps also of the kidneys), which give rise more to a feeling of general discomfort than to localized pains. These are specially, on the one hand, the slighter mechanical obstructions to the passage of the intestinal contents, flatulence, and in particular gastro-intestinal catarrhs, which very often give rise to hypochondria in sensitive individuals, and that too often of a most aggravated form; and, on the other hand, affections of the sexual and nervous system consequent on onanism, gonorrhœa, and venereal excesses; and, finally, all dyscrasiæ. It is principally to these three series of affections that the physician ought to direct his attention.

In the second place, however, hypochondria may undoubtedly also arise from direct moral causes, inasmuch as through external circumstances the ideas may be so constantly directed to the state of the general health, or of one particular organ, as to induce morbid sensations. This is particularly observed in those who read medical books, who are frequently in the company of hypochondriacs, or during the time of an epidemic, as of cholera, etc. Such cases are, therefore, less severe and rare in comparison to those which are produced by indirect moral causes, such as depressing emotions, excessive mental exertion, etc. These generate derangements of digestion, of the circulation, of the nutrition, etc., which become the sources of the feeling of illness.

Hypochondriacal states are sometimes observed in the years of childhood, and more frequently at the age of puberty. They are extraordinarily frequent in young people, and more rare in advanced age. They are more common in men than in women; however, it is by no means rare to meet with most characteristic and complete cases in the latter sex. The course is in general very slow, and it sometimes presents remissions. I have seen some cases where the hypochondria appeared like an intermittent mania at almost regular periods, with intervals of several years.

Another time I observed in a severe case (female sex) an almost complete remission take place after severe spontaneous diarrhœa, combined with lancinating pains in the vertebral column.

During the very chronic course of hypochondria, the nutrition and appearance of the patient may often continue good for a long time; but when an organic affection of some of the viscera becomes developed, the patient enters into a stage generally prolonged of physical languor, with emaciation, discoloration of the skin, great weakness, etc., wherewith occasionally the hypochondriacal frame of mind begins to disappear. Sometimes also symptoms of apoplexy, of paralysis, develop themselves; or the insanity may gradually assume another form, particularly that of partial dementia with depression.

Recovery is not unfrequently obtained by moral treatment, but also by removal of all physical causes; the hypochondriacal symptoms have also been observed to disappear with the accession of a fit of gout or of intermittent fever.

Examples of simple and complicated cases of hypochondria of various modes of origin, appearance, and termination.

EXAMPLE VII.—*Simplest case of hypochondria, cured by moral treatment.*—Mademoiselle H—, æt. 21, naturally of a very strong constitution, regular in her menstrual periods, though the flow was somewhat scanty, and presenting no other deviation from perfect health than a continual and habitual constipation, suddenly lost her usual cheerfulness and completely secluded herself. In vain, for a whole year, was she implored to explain this sudden change. At last the patient admitted her physician to her confidence, and vowed to him with great bashfulness the cause of her misery. She complained that she felt a continued pain in her right hip, a feeling of uneasiness there, upon which all her thoughts were concentrated. Having examined this region, the physician was unable to discover anything that would account for this sensation of which the patient complained; when she all at once burst into a fit of weeping, and declared that she would very soon die, and that she felt convinced her bowels were about to escape from her half-open abdominal parietes. The physician was careful not to impugn this foolish notion altogether, but informed his patient that the muscular covering of the abdomen was sometimes somewhat weak in this region, as in her case, and that to remedy this weakness it was only necessary to wear a bandage round the part. The young lady adopted his advice, and with the use of the girdle all these uneasy feelings completely disappeared; and, what is also worthy of remark, the constipation which had so long and so obstinately persisted also left her. ('Bulletin de Thèrapeutique,' 1842, p. 201.)

EXAMPLE VIII.—*Nervous temperament; hepatitis; hypochondria; death.*—Mr. M— was of a nervous excitable temperament; good-natured, sprightly, and endowed with a vivid imagination, he devoted his utmost energies to his business. He married at the age of thirty-one. Up to this time, everything had gone on prosperously and happily with him. Though he endured suffering with the utmost courage and magnanimity, yet the smallest trifles annoyed him, and he could not rid his thoughts of them.

One year after marriage, he was attacked with a very severe and acute hepatitis. The liver projected four fingers' breadth below the false ribs. (Eighteen leeches ad anum.) The inflammation subsided, but with the return of the liver to its natural size, the irritability of the patient increased; a mere nothing made him impatient, and everything was a perpetual source of pain and annoyance to him. The most gloomy apprehensions as to the nature of his liver complaint were awakened in him. He began to think of obstruction and cancer, and looked forward to a future of pain. In spite of this, his cure was complete; only there remained a greatly increased nervous sensibility, a tendency to exaggerate everything, and his temper became extremely variable.

At one time he was gay and cheerful, as formerly; and at another, choleric and fiery, without any perceptible cause. Changes of temperature had a marked influence on him. In his moments of bad humor, he suffered pain in all parts of his body, according as his attention was directed to them. But he complained almost constantly of a pain in his right hypochondrium, which he ascribed to his liver. His digestion was often faulty, and he had distinct epigastric pulsation. He now believed himself attacked by a fatal gastritis. A tickling in the throat, with a slight dry cough, or the expectoration of some mucus, then awakened in him the idea that he was consumptive. He took to reading medical books, and imagined himself to be the subject of every disease he read of. At the same time, he occasionally came to the conviction that all his suspicions were groundless, and he often had entire months of respite from his affliction.

In the year 1831, the patient was attacked by a very serious fever which affected the mucous tissues, accompanied by great nervous irritation and violent pains in the right shoulder. No sooner was he cured of this, than he complained of greater pains, which recurred more frequently than ever. For this, a course of mineral waters and travelling was prescribed. But any amelioration was constantly broken in upon by new sufferings and new fears, which very soon reduced him to a perfect skeleton.

Some time after this, pains in the lumbar regions, a burning sensation in the urethra and bladder, suggested to him the idea of catarrh of the bladder, or of stone; and, in fact, he did pass some gravelly particles. From this time forward, his phantasy left him no longer at rest. Incessantly occupied with his sufferings, which were much exaggerated by the attention paid them, and by the careful manner in which they were analyzed, his temper became more and more irritable, and he scarcely ever had one moment's peace. Sometimes he gave himself up to a sort of rage and despair, but more often he sank into a state of gloomy depression, in which he fancied that his end was at hand, and that he was to be cut off by one of the five maladies by which he was in turn afflicted. Thus he became, latterly, in the highest degree eccentric and phantastic. Nothing pleased him, everything was hateful to him. The most assiduous attentions were ungratefully received by him, and he would weep over the misfortune that placed him in such circumstances. Then he would ask his wife's pardon for all his injustice to her, and again would take it into his head that she no longer loved him; and this thought became a new source of distress.

He now retired from business. By constantly pondering over his afflictions, he increased still more the nervous irritability which gave rise to them. He consulted all the physicians that were suggested to him, and the desire to become well urged him to follow their prescriptions most eagerly. He soon discovered the inefficiency of their remedies, which only inflicted upon him renewed pain. The disappointment of his hopes tended to incite his delusive imagination, to increase his nervous excitement and undermine his strength. In 1834, he was again attacked with a fever, which attached itself principally to the mucous tissues, during which his temper was almost unbearable. He, however, rallied, but without any alleviation of his nervous sufferings. Perpetually tormented with his peculiar phantasies, he took it seriously into his head that he was a martyr to stone in the bladder, and nothing would persuade him to the contrary. He persisted in this belief, and set off to visit a celebrated lithotritist in Paris. The examinations which he there underwent so irritated the urethral canal and the bladder, that at the end of a few days the patient died. No autopsy was made. (Brachet, 'De l'Hypochondrie,' Paris, 1844, p. 29.)

EXAMPLE IX.—*Weakened constitution and melancholia from moral causes; recovery through satisfaction of a passion.*—Madame ——, æt. 26, of great mental and physical sensibility, was the mother of three children. Her health was good, until the persevering attentions of a visiting acquaintance completely gained her affections. Filled with ideas of her duty, she resisted the seducing influence, and kept the secret of a violent passion buried in her heart. This constraint gradually affected her health; she began to suffer from palpitation, sensation of fulness at the chest, and indescribable morbid symptoms. The appetite failed, the gastric region felt painful, and stitches were felt in the side. To these actual sensations were associated the most peculiar and sad ideas concerning her health. She believed sometimes that she suffered from aneurism, sometimes from cancer of the stomach, sometimes and most frequently from consumption. Indeed, a feeling of tenseness, cough and abundant expectoration, feverishness and nocturnal perspirations, had established themselves. The doctor suspected phthisis, and sent the patient to the South of Europe. On her journey she consulted me. I found her mental condition much affected, and her imagination seriously involved. Her sufferings were, according to her own testimony, actually fearful; sharp, red-hot irons were forced through her flesh, the fibres of which were torn as if by pincers. She did not, hower, complain much of the pulmonary organs. After six months' residence in the South of France, she was neither bodily nor mentally improved. The pulmonary affection seemed not to have extended, but her imagination was far more disordered; she exhibited a greater tendency to view everything in its worst light; and on her return to Paris her state became still worse. There she again saw the object of her passion, succumbed, abandoned her husband and family, and fled with her seducer.

Six months afterwards I saw her again. I could scarely recognize her. Beauty, freshness, and fulness were in the place of a condition bordering on marasmus. There was no longer cough, expectoration, palpitation, gastric affection, pain, or any disease. The gratification of her passion had re-established her health and dissipated the dark ideas of hypochondriasis. (Brachet, 'De l'Hypochondrie,' p. 69.)

EXAMPLE X.—*Hypochondriasis produced by a moral cause and nourished by superstition; recovery by moral means.*—A. M——, an active and laborious but very simple woman, injured her arm through a fall. A bone setter who was consulted declared "the veins of the arm were too much disordered for him to cure her completely." She now sought the aid of a physician; but as the arm still remained uncured, she came to the conclusion that a vein in her arm might have been broken, and that, owing to want of the vein, she would never again be able to work with it.

This sad idea constantly pursued her; she, in the most unhappy frame of mind, complained to her friends of her fate. Some one advised her to lay the leg of a frog on the spot where the vein was injured, and throw it afterwards into the river. When she had done this, she felt from that moment the roar of the water in her head. Her sad and melancholy disposition had now reached the highest degree; she believed that all her sufferings were a punishment from God, because she had not prayed sufficiently when she was a child, and reflected on her father for not having more strictly enforced this duty. In order, however, to make amends for her fault, she prayed day and night.

Her son, who was twenty-three years of age, a reader of religious books and of irreproachable character, nursed and humored his mother with such diligence, that his friends, anxious regarding the state of his health, sought to divert him by bringing him into lively society. He was very bashful; and a lively girl having grasped his arm with some force in order to make him sit down, he felt the arm painful. When he got home, the mother's sorrowful complaints led him to think that the same thing had happened to himself, and that he also had had a vein broken. Next morning the pain was actually much more severe, and the young man believed that he was less able to use his arm. He became every day worse; he ceased to work, and felt assured that a vein was wanting; and by-and-by it seemed to him impossible to use the arm in the least. The whole employment of mother and son consisted now in praying.

By constantly brooding over his state, the latter commenced to think that, owing to the connection between the veins of both arms, the other would also suffer—in a moment he became unable to move the other arm, and in the course of a year he fell into such a state of apathy that he had to be dressed and undressed, as well as fed. In the case of the mother also, the melancholia and the religious ideas increased; she thought, as often as she lighted the fire, that she lighted the flames of hell, etc., and her misery became so great that she attempted to commit suicide. The son could only be weaned from the idea of starving himself through the exhortations of a clergyman.

I found both individuals engaged in their only employment, viz., praying. The young man held both arms straight downwards, with hands and fingers extended. He complained that he could not give me his hand, because there was a vein wanting in his arm. He came nearer to me, and, after a minute investigation, I said to him that *of course* a vein was wanting, giving him at the same time a positive assurance that I would help him.

I now ran my fingers up and down the arm in the direction indicated, and stopping suddenly at the long nail of the thumb, hurriedly cut off the end of the nail, together with a piece of the flesh, so that it bled. I then rubbed the arm strongly with both hands, and exclaimed with a loud voice, "With God's help it has succeeded—the vein is now there!" In order to convince him that the vein really existed, he was shown the flowing blood, and he was immediately compelled to make certain movements.

But, as the mother remonstrated that the recovery of her son was not yet possible, because he still bore the mark of damnation (namely, black dirt upon the chest), this was immediately rubbed off and his skin cleansed. The son now, after some religious exhortation, shook hands with the bystanders, put off and on his clothes, and on the following day commenced to work by thrashing some corn. The mother, too, convinced of the actual recovery of her son, again resumed her diligent habits, and both are now bodily and mentally well. (Berlyn, in Nasse, 'Zeitschr. f. Psych. Aerzte,' ii., 1819.)

EXAMPLE XI.—*Heart disease, hypochondriasis, several feigned operations without decided result; feverish state; recovery, relapse.*—Lucy M—, æt. 50, with no hereditary disposition to insanity, was chlorotic at 14, married at 22 (two abortions and eight ordinary births). During her second pregnancy, she was seized with violent headache, with vertigo and delirium, which ceased at her confinement. For the last twenty months she has not menstruated. In December, 1839, she was seized with a general feeling of ill-being, with pains in the gastric region, beatings in the whole body, and nervous attacks. During her residence in the hospital, the patient suddenly remembered of having drunk out of a well in which there were three spiders. From that moment she felt convinced that she had swallowed them, and fell into the most violent agitation, owing to which she was on the 11th February, 1840, removed to the lunatic asylum at Tours.

She complained of formication and smarting over all her body; stitches and beating at the breast, stomach, abdomen, and limbs; ringing of the ears, sleeplessness, vertigo, and peculiar dreams. The course of her thoughts was regular, and her answers correct; but so soon as she referred to the subject of her delirium, she became agitated, and spoke not only of spiders which inwardly pained her, but of demons, serpents, and beasts of all descriptions which gnawed at her. There was slight hypertrophy of the heart, and a bruit with the first sound; the pulse was hard (calming remedies, digitalis). Constant restlessness, and doubts concerning the possibility of recovery (gamboge). In the stools excited by this remedy, three spiders were secretly placed, which the patient was allowed to discover; but she at once replied, "These are the old ones; they have left their young behind—I feel them in my bowels." The same contrivance was twice repeated; but the patient felt certain that the spiders multiplied tremendously, and were now in her body from head to foot. Every attempt to convince her of the error of her idea was met with threats and abuse.

It was now proposed to her to have an operation performed, through which all the spiders must certainly be removed. She received the proposal with joy, longed for the hour of the operation, and spoke of her recovery with hope and confidence. The operation was performed with great solemnity, in presence of several physicians, in order to make an impression on the imagination of the patient. It consisted in a slight incision of the skin of the back, and several spiders which were held in readiness were allowed to run about the bed, she believing that they were taken from her body. She said that she felt their removal distinctly, and rejoiced at the result. These small incisions were frequently repeated in all parts of her body. At this time she took intermittent fever (quinine, antispasmodics), was always excited, felt insupportable pain over the whole body, and constantly begged for new operations. Once she attempted to throw herself from the window, but without doing herself any injury; at another time she attempted to strangle herself. Finally, it was declared to her that now there were no more spiders in her body; and to convince her of this, two new incisions were made, the œsophageal sound used, and purgatives administered. On September 9th, she still attributed certain physiological phenomena to the presence of the spiders—the rising and falling of the larynx, the arterial pulse, etc. She was, however, soon convinced that these appearances were present in all men. There now appeared a feverish state, with headache and ringing of the ears; and on the 18th September, all the symptoms had disappeared.

The patient now became completely quiet, happy, and thankful, and was employed in the kitchen. The news of the death of her husband, which was rashly told her, vexed her very much, but in no way disturbed her mental health. During the next winter, however, which was very severe, living in the most indigent circumstances, and struggling against cold and hunger, she suffered a relapse, accompanied with violent palpitation, agitation, mania, and attempt at suicide. The patient was no longer treated according to her false ideas, but gradually recovered under simple nutrient treatment, affusions, baths, narcotic and aperient medicines. (Charcellay, 'Annales Méd. Psychol.,' ii., 1843, p. 485.)

SECTION II.—*Melancholia in a more Limited Sense.*

§ 116. *Anomalies of self-consciousness, of the desires, and the will.*—In many cases, after a period of longer or shorter duration, a state of vague mental and bodily discomfort, often with hypochondriacal perversion, depression, and restlessness, sometimes with the dread of becoming insane, passes off, a state of mental pain becomes always more dominant and persistent, but is increased by every external mental impression. This is the essential mental disorder in melancholia, and, so far as the patient himself is concerned, the mental pain consists in a profound feeling of *ill-being,* of inability to do anything, of suppression of the physical powers, of depression and sadness, and of total abasement of self-consciousness. So soon as this condition of the sensorium attains a certain stage, the most important and wide-spread consequences, as regards the demeanor of the patient, result.

The disposition assumes an entirely negative character (that of abhorrence or repulsion). All impressions, even the slightest and formerly most agreeable, excite pain. The patient can no longer rejoice in anything, not even the most pleasing. Everything affects him uncomfortably, and in all that happens around him he finds new sources of pain. Everything has become repulsive to him; he has become irritable and angry. Every trifle puts him out of temper. The result is, either perpetual expressions of discontent, or—and this is more common—he endeavors to escape from all outward mental impressions, by withdrawing himself from the society of men, and, completely idle and unemployed, seeking solitude. This general feeling of aversion and indifference is often expressed by a dislike towards those by whom he is surrounded, his family, friends, and relatives, which often merges into absolute hatred—by a complete and unhappy change in his character.

We may sometimes observe in individuals apparently healthy (particularly among females) a similar though much more chronic state of habitual perversion of sentiment, accompanied by a capricious and morose disposition, with a tendency to contradiction and ill-nature. Nevertheless, it is very rarely that this is regarded as a morbid state, even although it differs widely from similar evil dispositions which we see sometimes displayed in those who are perfectly healthy,—through its frequent origin from palpable diseases, through its frequent remissions, which are explicable by no well-grounded mental motive, and through the fact that at times the patient feels himself constrained to yield to the evil disposition in direct opposition to the dictates of his conscience and his will, and although he is perfectly aware that such conduct is most unwarrantable.

In simple melancholia we frequently find a condition of the sensorium precisely analogous to that which we have described under the head of Hypochondria, in which the objects of the outer world, although they come into consciousness through the medium of the senses, and are indeed properly understood and recognized, still they produce an impression utterly different from what they were wont to do, of which the intelligent and educated sufferers can alone give a true description. "It appears to me," says such a melancholic, "that everything around me is precisely as it used to be, although there must have been changes. Everything around me wears the old aspect, everything appears as it was, and yet there must have been great changes," etc. This confounding by the patient of the subjective change of exterior things, and then objective change, is the commencement of that dreamy state, in which, when it has attained to a tolerably high degree, it appears to the patient as if the real world had actually and completely vanished,—that it has sunk, disappeared, or is dead, and all that now remains to him is an imaginary world, in the midst of which he is perpetually tormented by finding that he has still to live.

At the beginning of this state the patient is perfectly cognizant of the change which has taken place in his moral nature, in all his feelings and affections. Sometimes he seeks to hide it, and the inquiries concerning the cause of his peculiar behavior weary and annoy him. He feels that his former enjoyment in everything that was honorable and estimable is fast passing into indifference and actual repugnance. He even complains himself that his sensations are no longer natural, that they are perverted, and when his evil genius constrains him to regard the worst side of the world, a new source of pain and sorrow is presented to him, viz., that he can rejoice about nothing, and must oppose everything. The unwonted impressions from the outer world excite his astonishment, grief, and fear. He feels himself excluded from his former intercourse with society; and this feeling of isolation, this exceptional position in which he finds himself, favors, on the one hand, the limitation of all ideas concerning the relation in which he stands to the world, and the relation of external objects to himself. On the other hand, there proceeds from this feeling of isolation, distrust, anxiety, and fear of all possible evils—sometimes a feeling of hatred and revenge towards the world, but more often a powerless, helpless withdrawal from society and concentration in himself.

That which weighs most heavily upon the mind of the patient at the commencement of his trouble, is that feeling of change which has taken place in his own personality, that vagueness and obscurity arising from this undefined feeling of annoyance. Yet at this stage he is sometimes perfectly aware that his fears are absurd, and that those uneasy thoughts which force themselves upon him are utterly false; and he is even conscious of his own actual state. But then, he perceives that it is impossible for him to feel, to think, to act otherwise than he does,—that he cannot resist, and how useless every effort at resistance is; then he receives from his overcoming of the *Ego* (§ 22) the idea of being ruled, of being irresistibly abandoned to some foreign influence, to which, afterwards, ideas of being governed by evil powers, of secret direction of the thoughts, of demoniacal possession, etc., correspond.

The limitation of the will, which is one of the fundamental disorders of melancholia, is manifested by inactivity, cessation of all employment, constant doubt and irresolution, incapacity of decision, and absence of will. In the higher degrees, it shows itself in actual torpidity and dulness of feeling, inasmuch as impressions are no longer followed by a reaction of the will; in the more moderate degrees, as slowness, monotony, hesitation in movement and action, feeling of incapacity for the slightest mental exertion, lying in bed, etc.

Frequently there are sensations of intense anxiety, which often appear to spring from the epigastric and cardiac regions, and to mount upwards. "Here," say many of these patients, pointing to the epigastrium—"here it remains like a stone: would that I could get rid of it!" These feelings of anxiety sometimes increase to such an extent as to be almost unbearable; thus driving the patient into a state of despair, which generally passes into an attack of mania. Moreover, these states manifest themselves externally in many various forms, according to the former disposition of the patient, the moral causes, and accompanying physical anomalies, etc.; at times, with the outward signs of grief and care, or as silent melancholy, as self-concentration, or a dull, passionless, reserved bearing; sometimes as loud self-accusation, with weeping, wringing of the hands, and great restlessness; sometimes as morbid peculiarity and intractable obstinacy; or, finally, as a tendency to lay violent hands on self.

There are some melancholics who are always discontented, and whom nothing pleases; others to whom everything is alike indifferent, because their attention is completely absorbed in the contemplation of their own misfortune; and others who maintain that for them "everything is too good, and they cannot understand how it is that people do not despise such miserable creatures as they are."

All these varieties in the disposition of melancholics are at the commencement generally unaccountable, and do not depend on certain definite delirious conceptions; therefore it is that the patient himself is also, at this stage, perfectly incapable of giving any statement which might account for his present condition. "I am afraid," says such a patient; and if asked why, he can only reply, "I don't know, but I am afraid" (Esquirol). Hence, we are constrained to come to the conclusion—which indeed, observation has led us to, and serves only every day to confirm—that exhortations, solicitude, and argument have not the slightest effect upon this state of depression, engendered by some cerebral lesion; and that the ideas which conduce to the development of this state must have an internal, subjective origin, and therefore a character of irrefutability, so that they render the patient wholly impervious to anything like argument, and at best only permit him to exchange one mournful train of ideas for another.

§ 117. *Anomalies of the intellect.*—The painful concentration of the mind represses the vivacity and the natural course of the thoughts. A few ideas occupy the mind of the patient, and all that he gives utterance to is a few monotonous complaints regarding himself, and of the sad change which has come over him. Or, he continually reverts to certain events which happened about the commencement of his illness, etc. All desire for intellectual intercourse with his friends is generally very much diminished. The patient often sits perfectly mute, or at best speaks timidly, with hesitation, in a low tone, frequently interrupting himself. One melancholic who was under my charge preserved an inviolable silence for several years, and it was only from his physiognomy that we learned his ruling disposition, for it expressed most unequivocally intense anxiety and sadness, while at times he would weep and wring his hands. In other cases the patient bewails himself, heaves deep sighs, and is engaged in prayers and supplications, but always on the same subject; yet, in spite of the extraordinary monotony of his intellectual life, he never becomes a prey to *ennui*.

Together with these formal disorders, there now appear false ideas and judgments, corresponding to the actual disposition of the patient. Thus, for example, he feels that he is in a state of anxiety of mind exactly similar to that which a criminal is likely to experience after the perpetration of some misdeed, and so he believes that he, too, has committed some crime; and from this predominating idea he cannot rid himself. But as in the review of his life he is unable to recall what this crime is, he fixes upon some insignificant event, when he has committed some trivial fault, some petty carelessness (or perhaps he may not even be guilty of that), and this unfortunate occurrence becomes the subject of his delirium. In it he discovers the cause of his present misfortunes, and his fears for the future. Sometimes he feels himself the prey of some undefined torment, and imagines himself encompassed with enemies. Soon he actually considers himself persecuted, surrounded by foes, the subject of mysterious plots, and watched by spies; and as he connects everything with himself, the most insignificant matter tends to nourish his delirium.

Again, the patient who formerly cherished religious ideas feels how profoundly he has changed in regard to this train of thought; how this state of anxiety and uneasiness renders him totally incapable of reflection; how, consequently, he is unable any longer to pray, or at his devotions he is assailed by unhappy negative ideas. He feels that the church and all other external objects give rise in him merely to painful impressions. Thus he seems, in his exceptionable position, like a castaway whom God has given up and abandoned to the devil and to eternal damnation. Soon he comes actually to believe that he has indeed committed grave faults, innumerable sins, and that he has entirely neglected his duties, etc. Hence we see that it often depends upon chance, upon which particular thoughts or ideas the patient attaches so much importance that they recur to him as fixed or partially fixed delusions.

All these melancholic insane ideas have one essential character, that of passive suffering, of being controlled, and overpowered. But we can readily discern how very various must be the special subjects of these ideas, according to the amount of education and the character of each individual, their antecedent history, and the impressions which have been accidentally made. The same feeling of loss of self-control, of being given over to foreign and peculiar sensations and ideas, which awaken in the credulous peasant the idea of being bewitched, may in the better educated call forth the idea that some one is acting upon him by means of electricity, magnetism, or chemistry. To the one it seems as if he has lost all his most cherished goods, his children, his relations, and his fortune. This he firmly believes, and fears that nothing now remains for him and his family but to die of starvation. Another imagines that he has become bankrupt, that his business has gone from him, that he is mixed up in the most serious and criminal offences, and ceases not to bewail that he has reduced his family to the most abject poverty and beggary. At other times it seems to the patient, when he feels the change which has occurred in his whole mode of sensation, and experiences the impossibility of maintaining his ordinary share of worldly duties and employments—imagines that he can no longer be a man—that he is gradually becoming like one of the lower animals, or that he is even already transformed into a beast. As the change in the patient's views of life and morals in general usually gives to the insanity a certain color and expression, so long as the natural sensations continue the same, and the general relations of love of family, interest, friendship (emotions which in all times most actively bear on the human heart) remain, so also the delirium of the melancholic presents various phases at different epochs. The fundamental disorders of the self-sensation are, however, always the same, whether the melancholic believes, as in the days of old, that Atlas, becoming fatigued with his burden, may at any moment let the arch of heaven drop; or whether he imagines, as in the middle ages, that he is under the power of sorcerers, ghosts, and witches; or, as in our times, that he is sought after by the police, or that he is engaged in the most disastrous speculations, etc.

As to the manner in which this delirium is brought about, we have already several times pointed this out. The patient experiences a feeling of sadness. At first these fits of sadness are only produced under the influence of vexatious causes; but the law of causality demands even here some motive, some cause for this, and before the patient has had time to inquire into the rationale of it, there arise as answers all sorts of mournful thoughts, dark presentiments and apprehensions, over which he broods and ponders until certain ideas have become strong and persistent enough to be, at least for the time, fixed. Thus these delirious conceptions again possess the essential character of *attempts at explanation* of the special state.

At the commencement, and in many cases even during the entire course of the melancholia, there may be no delirium, properly so-called. The patients may be able quite correctly to realize their own condition and the things of the external world; to analyze their sensations with precision, and anxiously desire to free themselves from them, but to do this is absolutely beyond their power.

Amongst the most marked cases of melancholia, there is one most important distinction to be made, viz., whether the patients appear to be, as it were, in a profound *dream*, or whether all their transactions with the outer world are carried on as if they were quite awake. Cases of the first class ordinarily assume a more acute character, and more nearly approach that form known as "melancholia with stupor," the prognosis of which is much more favorable than that of those which fall under the second head, which usually develop themselves slowly, and are much more chronic in their course. The first class of cases may terminate very speedily, as if the patient had suddenly wakened up; the latter never do this.

§ 118. *Anomalies in the sensibility and movement* frequently accompany these mental disturbances. These are at times indicated (as already mentioned, § 49) by sensations of emptiness in the head, of deadness in the head, or of some other member, or even of the whole body; sometimes by these annoying sensations experienced over the whole surface of the skin, and suggest to the sufferer the idea that some one is electrifying him; or, finally, by hyperæsthesia of the sight and hearing (trembling, starting at the slightest noise—perhaps a fundamental cause of the so-called panphobia).

The special insanity of the senses, the *hallucinations* and *illusions*, have quite the character and impress of painful emotional perversion. The patient sees the preparations for his punishment—he hears the messengers of justice who have come to seize him—he perceives himself surrounded by the flames of hell—precipices appear to open under his very feet—spirits come to announce to him that he is about to judged—he is pursued by voices which address him in the most abusive and mocking language, etc. A young melancholic who was under my observation, one day saw the head of a pig staring at her as she looked into the mirror; and for long after she continued to fancy that she herself had been transformed into such an animal. Hallucinations are most common and most varied in that very serious form of melancholia, in which the patient continually broods over his own misfortune, and is wholly wrapt up in it; and where there is a partial suppression of consciousness of what is going on in the external world (see under the head "Melancholia with Stupor"). We often meet with hallucinations of taste and smell, the former particularly, when the patient, perceiving a metallic taste in all he eats, has the idea thus suggested to him that some one is endeavoring to poison him, or that a charm has been wrought upon his food. The subjective unpleasant odors lead him to imagine that he is surrounded by dead bodies, or that he himself is in a state of putrefaction, etc.

With the appearance and increase of the hallucinations, the patient commences to act entirely according to imaginary relations, and consequently becomes more and more estranged from the world. These hallucinations often serve as the object of new explanations, and the most gloomy and absurd ideas of worlds of spirits, of machines below the earth, which exert their influence upon these unfortunates, etc., take their origin in these perversions of the senses which often only manifest themselves long after the commencement of the disease, or which may even never give any outward sign of their presence.

The movements of the melancholic bear the impress of the ruling painful emotions. Generally they are languid, feeble, or constrained. The patient gladly rests in bed, or keeps the whole day to one corner, where he sits without taking the slightest notice of anything that is going on around him. Often he sits absolutely motionless, as immovably fixed as a statue. In such cases the limbs are perfectly stiff, and offer considerable resistance to any attempts to give them another position; or else, on the other hand, they are abnormally flexible and mobile, and often retain the position in which they have been placed (cataleptic states). The muscles of the face are sometimes the seat of a permanent contraction, the features are fixed, the eyebrows wrinkled, the angles of the mouth drawn down. All this, joined to the generally grayish livid tint of the skin, gives to these melancholics almost invariably the appearance of great age. The eyes are always cast downwards, or, on the other hand, widely open, and fixed with the expression of suffering, of painful tension, or of astonishment.

An essentially different deportment is presented by movements in that form of melancholia where the inner disquietude is also expressed by physical restlessness (melancholia agitans), in which there usually is a confused tumult of thought. In essentials, however, these are certainly very monotonous and of small variety; and it is through this paucity of ideas, this want of fertility, that this state differs from mania.[1] At other times, the patient keeps up a perpetual motion, often breaks out into fits of weeping, and constantly wrings his hands. Not unfrequently, he manifests a great desire to wander about at liberty, to make long excursions, and to visit his friends and relations (melancholia errabunda). Often while walking he wrings his hands, or, becoming violently agitated, throws his arms into all manner of wild contortions. We may quite correctly recognize in these two different modes of appearance of the morbid mental pain, the analogues to the painful emotions of the healthy: on the one hand, to the immobility consequent on shock or fright; on the other hand, to the physical restlessness and agitatation (running about in the open air, etc.) observed in these in this frame of mind.

The deviations from the normal standard of physical health are valueless for the purpose of diagnosis of insanity in general, or of any one form of mental disease, but are of the highest importance so far as regards its etiology and treatment. These deviations are by no means constant, and do not always present the same relation to insanity. Sometimes they are merely the symptoms of some malady which may have been in existence for a considerable time previously, but which at the same time may have contributed somewhat to the production of cerebral disease (*e. g.*, arterial affections). Sometimes they are accidental complications; at other times they form the symptoms—and these latter are by far the most important—of the cerebral disease itself. To these latter belong particularly—

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[1] See Richarz, 'Zeitschr. f. Psychiatrie,' xv., 1858, p. 28

1st. The absence or diminution of sleep, so that the patient either remains quite sleepless or feels so little refreshed by his sleep that he affirms that he has not slept (this being, in fact, a prolonged internal wakefulness with drowsiness of the sensorial functions). He often has disagreeable dreams, and frequently hallucinations occur at the moment of awakening.

2d. Painful sensations in the head; *e. g.*, heat, pressure, weight, vertigo, a feeling of emptiness, of water, etc., in the skull; a light-headedness like that of drunkenness; noises in the ears; sensations similar to that of an aura; slight convulsions of the muscles; wandering pains in different parts of the body—the chest, vertebral column, epigastrium, etc., insensibility of some portions of the skin; feelings as if this or that member no longer belonged to him, and a marked diminution of the sexual desires. Such are some of the principal symptoms which indicate that some change has taken place in the action of the nervous centres. These sensations often present the most marked correspondence to the mental affection. For example, a young woman suffering from melancholia, aged thirty-two, whom I had an opportunity of observing in the year 1857, complained much of neuralgic pains in the right side of the forehead, the right supra-orbital nerve being peculiarly sensitive. Every day she had an attack, which began by a sort of darting above the right eye, and then the whole head was immediately attacked in the same way; the tendency to melancholy increased rapidly, and the patient became completely confused.

3d. Very often the digestive function is disordered, and, as in nearly all cases of cerebral disease, constipation is present. This fact may lead to certain errors in the etiology, the assumption of hypothetical stoppages or infarctus, while every-day experience teaches us how easily derangements in the intestinal canal are brought about in otherwise healthy individuals when any painful event occurs. Occasionally, of course, especially at the commencement, we do find some unmistakable signs of a gastro-intestinal catarrh. Oftener, however, we merely find the tongue loaded, and an abnormal appetite present—either much decreased or (and this is more common) increased, and that to such an extent as to suggest the idea that the sensation of satiety is utterly lost. The surprising gluttony of some patients often forms a singular contrast, almost grotesque, to their state of profound sadness. Thus we may see them hastily gorging huge pieces of cake, and at the same time loudly bewailing their numerous sins, and grieving over the loss of their soul's salvation, or over temporal misfortunes. The sensation of weight at the epigastrium which we have observed to be complained of by a large number of such patients, appears to arise from the diaphragm or the abdominal muscles. Beyond this we are as yet unable to go with our explanation. This is to be regretted, because it often appears to maintain the feelings of anxiety, and we might, by controlling it, essentially ameliorate the condition of the patient. Thus, in the case of a young woman whom I saw in 1857, and who, after severe tartar-emetic treatment (for pneumonia), suffered for a long time from symptoms of chronic ulcus ventriculi. The frequent fits of acute melancholia, with this feeling of anxiety, accompanied by palpitation, maintained a certain relation to overfulness of the stomach, errors in diet, indigestion, etc. *The refusal to take food*, which is frequently observed in the case of melancholics, and which, when long persisted in, becomes a troublesome complication on account of the forced alimentation and consequent defective nourishment, often arises from the fear which these unfortunates entertain of being poisoned, or from various abnormal sensations which they experience in their stomach; as if their intestines were closed up, or there were no room for more food; or as if appetite had completely left them. At other times they refuse to eat, because they wish to die of hunger, or because they believe that by thus starving themselves they can expiate their sins: or because of hallucinations, such as the hearing of voices which command them not to eat, etc. These ideas seem sometimes to be suggested and kept up by serious affections of the intestinal mucous membrane, and particularly by an acute catarrh, extending over a great portion of the intestinal tract. But this refusal of food is also not unfrequently, as Guislain has judiciously observed ('Leçons orales,' p. 265) only another form of displaying their obstinacy—just as they refuse to speak. Or, lastly, it may be the result simply of imitation. The immediate results of this prolonged abstinence are rapid emaciation, dryness of the skin, slowness of respiration, sluggishness of the bowels, deficiency of urine.

4th. The nutrition of the body frequently suffers. The patients become thin; the skin loses its moistness and fresh appearance; it becomes pale, withers and dries up. In the normal state we do at times observe an analogous condition of the skin as the result of harassing and sorrowful emotions: yet it has been most justly remarked that the perversion of the feelings in melancholics never produces so profound an effect upon the constitution as severe and protracted emotions certainly do in those who are in perfect health. This has been accounted for by the fact that the majority of melancholics eat more and digest their food much better than persons in health do when under the influence of profound sorrow. But, on the other hand, when such patients must be fed by force, as when they refuse their food, they sink rapidly into acute marasmus, often associated with severe and fatal local maladies, *e. g.*, lobular pneumonia, gangrene of the lungs, etc.

5th. The respiration is frequently prolonged, incomplete, and difficult. The patient is oppressed, and seeks to obtain air by means of deep sighs. Palpitations of the heart are by no means uncommon, and often it is from this organ that those sensations of anxiety proceed. We have already spoken of affections of the circulation, and of their importance so far as regards the development and maintenance of cerebral disease. The state of the pulse is extremely variable; it is often very small and slow. The feet and hands are often constantly cold, particularly in those who never move about, when they may present a cyanotic or leaden hue.

6th. Derangements of the menstrual function. Absence and irregularity are very frequent. In some cases, with the re-establishment of the menses we see the mental affection completely disappear; while in others it produces no effect whatever, and even at times tends greatly to aggravate the disease (see § 108).

7th. Anomalies in the urinary secretion may be much more frequent than is generally supposed. Unfortunately, any reliable researches on this important subject are still wanting. The secretion of tears, in spite of the state of mental sorrow under which the patient constantly labors, is very rarely increased.

Chronic affections of the viscera very often develop themselves during the course of melancholia, as tubercles of the lungs, affections of the skin, chronic intestinal catarrh, etc. These affections sometimes remain latent for a very long time. When death results, it is generally in consequence of one of these diseases. It is by no means rare to see a fatal issue when the patients refuse their food; and in melancholia with stupor, death, independent of this circumstance, sometimes supervenes in the midst of an access of the symptoms by an aggravation of the cerebral torpor and paralysis, and sometimes at the autopsy in such cases considerable œdema is found.

§ 119. *The Course* of the simple forms of melancholia is often very acute: thus, for example, in those cases where a very short period of painful perversion of the feelings, accompanied with profound anxiety, precedes the development of mania, particularly of intermittent mania. Usually, however, the course of melancholia is chronic, with remissions; more rarely with complete intermissions, of variable duration. I have once seen, in a woman attacked with intense melancholia (ideas of complete loss of fortune, of forced starvation, etc.), a complete lucid interval of scarcely a quarter of an hour's duration supervening without any assignable cause, and terminating quite as suddenly. Naturally, the remissions are of more frequent occurrence at the commencement of the melancholia, and also on the approach of convalescence.

Transformations into mania, and the passage from this again into melancholia, are phenomena by no means rare. Sometimes the disease represents a cycle of these two forms, which often regularly alternate with each other—"la folie circulaire," which the French alienists have recently been discussing. Other observers, including myself, have seen cases where regularly at one particular season—for example, in winter—a profound melancholia has superverned, which in spring passes into mania, which again in autumn gradually gives way to melancholia.

The name "folie circulaire" was employed for the first time by Falret (1851), who has most correctly brought before the world the extreme gravity of this form of mental alienation. Baillarger ('Ann. Méd. Psych.' 1854, vi., p. 369) took much trouble to explain that in "folie circulaire" there are not two different attacks—one of melancholia, another of mania—but that both are merely two different stages of one and the same attack; chiefly because of the fact that between the melancholia and the mania there is no complete remission. This author gives to this affection the name of "la folie à double forme." In some cases there has been observed, and this too during a continuance of several years, a regular alternation, lasting for a day or for several days, between melancholia and mania.

A very moderate degree of melancholia with considerable remissions may persist for many years. Such patients very rarely come into asylums, or at least only during an exacerbation or an intercurrent attack of mania. They may generally be maintained in their ordinary relations, and are torments to those who surround them, and objects of the most varied mistaken speculation on the part both of physicians and of the laity.

The persistent form of melancholia, when of moderate intensity and properly treated, lasts usually from six months to a year. Judging from a considerable number of observations, we may almost regard it as certain that acute intercurrent diseases, as well as newly developed chronic ones, frequently exert a favorable influence upon the melancholia, as it usually desists with their appearance. To the former class (acute) belong, for example, salivation, the development of an exanthem, intermittent fever; and to the latter pulmonary tubercle. At all events, however, we must not look upon these facts as having the significance of *crises* in the old sense of the term, since certain neuroses (such as spinal affections, violent toothache, etc.) certainly do moderate, and sometimes even cause, the disappearance of the cerebral disease.[1]

But what is certainly as frequent as the disappearance of the melancholia on the accession of other diseases, is its persistence, or even its increase; or the insanity may, with the cessation of the melancholia, merely assume another form. Thus, for example, we have seen a young man who for years had been afflicted with profound melancholia with only slight remissions, in whom, upon the appearance of a severe catarrh, accompanied by hæmoptysis (the first symptoms of pulmonary tuberculosis, which rapidly progressed) and acute pain along the entire length of the spinal column, the melancholia yielded to a gaiety, equally morbid, and a restless cheerfulness. Such cases are far from rare.

Convalescence generally takes place gradually, with successive diminution of the symptoms, and of always more prolonged periods of calm; return of former desires and peculiarities; frequently with simultaneous improvement of the bodily health.

We have already seen that melancholia not unfrequently passes into one of the forms of mania; but further, simple melancholia, or melancholia with stupor, may also terminate by leaving the patient in a state of intellectual weakness, a more or less exaggerated state of veritable dementia. This is probably owing to the development of organic alterations within the cranium. Although the patient may have regained his physical vigor, yet the physiognomy wears an expression of heaviness and stupidity. The sadness may have gradually disappeared, but the intellectual faculties have lost their energy. Not unfrequently, there are also developed states of more or less profound partial dementia, where the patient has some fixed delirious conceptions, particularly certain hallucinations, through which he is led to believe that people desire to poison him, that he is the subject of various plots, or that he is constantly electrified, etc.; in which case the patient is almost always incurable. Such patients, laboring under this partial dementia, states of mental weakness, with the remains of melancholia (and mania) and hallucinations, generally with numerous exacerbations, in the form of one or other of the primitive states (apathy alternating with turbulence, a modified sadness with a gaiety equally superficial, etc.), constitute by far the major portion of the chronic cases met with in asylums. We shall enter more into detail on this subject when we come to consider partial dementia and dementia. At first the condition frequently continues for a long time stationary in the form of melancholia, varied only with slight changes for the better, only again to relapse. At this period it is extremely difficult to say anything with certainty as to the curability of such patients; but when this state of melancholic apathy continues for three or four years consecutively without remission, recovery is extremely rare.

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[1] See the cases of Brodie, already quoted above.

Examples of simple forms of melancholia terminating in recovery:

Example XII.—*Hypochondria, profound melancholia, intermittent fever; recovery.*—N. N—, a parish minister, æt. 43, of strong constitution, was in August, 1825, received into the asylum at Siegburg, he having been taken ill in March of that year. The chief symptoms had hitherto consisted in an expression of great anxiety and restlessness; amazed, sceptical glance: pale countenance; short respiration, and small and rapid pulse. He accused himself of having spent a disgraceful life, and of serious misdemeanors. In some lucid moments, however, he could correctly appreciate his condition (bleeding, blisters, nitre, emetics, and use of ferruginous water).

On admission, his glance was timid and unsteady; the expression that of anxiety and doubt; the abdomen distended; the bowels constipated, and skin of an earthy hue. The patient declared that he was torn, crushed, and hewn to pieces (cream of tartar with sulphur, light mental employment).

In September, the patient became gradually quieter, and showed less inclination to complain of his sorrowful feelings. Soon he complained of weariness and headache, and there now appeared attacks of intermittent fever of the tertian type. On each feverish day he continued in the belief, until the sweating stage came on, that he would immediately die, repeating this continually, with the most intense expression of anxiety in his countenance and gestures. When it was represented to him that he had said and believed the same thing on the preceding fever-day, he replied, "It is quite different to-day; to day I must die." Afterwards the feverish attacks occurred daily, and the fear of death became less intense. At last they spontaneously ceased, and with them disappeared also the accusations, which had now become less violent than formerly, but were still frequently repeated, which the patient made against himself of having committed unpardonable crimes, and the presentiment of temporal and eternal punishment which therefore awaited him. Only a certain degree of hypochondriacal self-torment and excessive anxiety regarding the state of his physical health remained, for a short time, behind. The pulse became regular; the œdema of the legs (which came on during the last attack of intermittent fever) and the earthy hue of the skin both disappeared.

He voluntarily and cheerfully engaged in some intellectual labor, became happy and lively, and in January, 1826, left the asylum completely cured.

The following statements regarding the origin of his disease were written by the patient after his recovery: "From my youth there existed in me a hypochondriacal state. Even before I entered the university I believed that I had consumption, and the assurances of the physicians to the contrary were fruitless. Many disagreeable events inspired me with distrust towards men, and in 1820, when I was condemned to inactivity on account of disease of the eyes, my ordinary occupation consisted in thinking, the ideas being often very sad, and such as could not fail to exert on me an unfavorable influence. In the year 1822 a fire took place, and a thorough wetting, which I there received, when just convalescent from an illness of several weeks' duration, made a most unfavorable impression on me. From that time the stools became less frequent, and difficulty of hearing set in. In 1824, I was oppressed with work, and very low-spirited; I ceased to take exercise; household cares weighed heavily upon me, and I lost a newly-born child. From that time forth I lost all cheerfulness and pleasure in work. After preaching, I felt fatigued and exhausted; anxiety and sad ideas came over me; my sleep was scanty and tormented by horrible dreams, after which a violent shiver ran through all my members. Nevertheless, I considered myself healthier than formerly; the dulness of hearing, pains in the limbs and flatulence, from which I had hitherto suffered, became less troublesome, and I had no disagreeable sensations after meals. It did not occur to me, therefore, to seek the cause of my sad condition in my own body, but rather in my entire life, which appeared to me to have been one great crime. *This idea did not originate gradually, but entered, if I remember rightly, my mind all at once like a dream. Thus I explain my entire state.* This occurred in perfect clearness of thought, confidence in others and in myself. The entire human race seemed to rise up against me, to throw me from their midst with the most shocking torments, and I myself was my greatest enemy. I acknowledged to my wife that I had committed the most fearful crime that had ever been perpetrated, and would be torn in pieces by my parishioners as soon as they became aware of it. The performance of my duties became impossible to me, and my anxiety constantly increased. The leading members of my congregation gave me the best assurances and propositions, but still I considered that all was lost; and one day when I fainted at a meeting, I believed that I had done so willingly. I thought that the noise of the stove was the beating of drums, and believed that soldiers were coming to carry me off. Afterwards, it seemed as if a scaffold stood before me, on which I should be torn in little pieces, and the fear of execution constantly pursued me. The things around me appeared more beautiful and brilliant than usual; all men seemed wiser and more clever; I considered myself in the deepest depths, and no longer capable of performing anything. I sometimes, only for a moment, believed that I nevertheless might still be delivered: and this feeling was generally followed by great sadness. I cannot better describe my state, towards the termination of the disease, than that of one who has awakened from a profound dream, and cannot immediately convince himself that it has been a dream."

(Much abridged from Jacobi, 'Beobachtungen über die Pathologie und Therapie der mit Irresein verbundenen Krankheiten,' i., Elberfeld, 1830, p. 141.)

EXAMPLE XIII.—*Melancholia; recovery with the return of the menstrual discharge.*—A young woman, æt. 19 (whose mother had committed suicide during an attack of profound melancholia), healthy and of joyful disposition, had menstruated regularly since she was fifteen years of age, and from her sixteenth year had suffered from leucorrhœa. Afterwards her feelings were affected by a love affair which was not favorable in the circumstances, and by other events; and she suddenly became ill in August, 1825. She presented a slight degree of imbecility; frequently laughed without occasion; made all kinds of merry hits, and was incoherent in her speech and actions. Her glance, expression, and movements were lively and hasty; the belly distended, the bowels constipated, menstruation scanty. In the course of a few months there appeared a complete remission of the mental symptoms, but in six weeks the insanity appeared anew under a different form.

The patient seemed a prey to melancholic anxiety, either sat dumb and motionless and lost in thought, or weeped and sighed, occasionally exclaiming, "What a misfortune! what have I done?" She refused food; her appearance became altered; her former freshness was changed into an earthy hue; she became wrinkled, and her strength left her. The belly was hard and distended; the stools were small and dry; the menses disappeared; the leucorrhœa continued. After a time her appetite returned; she went to a trough containing hen's meat, or sought elsewhere raw and dirty food, which she secretly devoured. She soon gained a little strength and bulk, but had a bloated and livid appearance. After the mental disorder had continued for eight months without medical aid, the girl was admitted in August, 1826, into the asylum at Siegburg. Excepting a somewhat scrofulous habit and the long-existing leucorrhœa, no symptom of bodily disease could be observed. Her movements were without energy, her carriage drooping, and she wept continuously all day long, and, indeed, drew such deep sighs and made such lamentations, that it seemed as if every moment she met with something terrible. She generally slept quietly during the night; she required to be somewhat pressed to take her food. The mental disorder in the patient was now manifested principally by the exclusive governing mental disposition which ruled all her thoughts and paralyzed her will, without any other mental confusion or any definite morbid direction of the desires being evinced. The disordered digestion, the distention and hardness of the abdomen, together with the amenorrhœa and fluor albus, appeared to afford the most important therapeutic indications (mild and regulated diet, baths, occupation). A convalescent attended to the patient with motherly care, gained her confidence, and was of great benefit to her.

Towards the end of September the menses began to appear, but the abdomen continued distended and hard. The patient gradually became calmer, wept less, and ate voluntarily. In three weeks, the menses returned; the belly lost its hardness; the bowels became regular; the wrinkles disappeared from her face, and the expression became more cheerful. After the menses had again returned, on the 10th of November, her sorrow and tears left her. Employment was her only pleasure; the fluor albus gradually disappeared; her health became gradually more confirmed, and in April, 1827, she was dismissed cured. (Jacobi, loc. cit., p. 198.)

EXAMPLE XIV.—*Melancholia, with tendency to suicide and hallucinations; suspected nocturnal pollutions. Recovery in consequence of cauterization of the urethra.*—Emil G—, æt. 23, showed formerly high mental attainments, and at the age of twenty-one became an advocate. His figure was bent, the body lean, the muscles soft, the skin colorless, the countenance void of expression, the eyes dull and turned towards the ground; the voice weak, behavior timid, and the lower extremities in constant motion. Although he spoke little and awkwardly, yet he made the following clear statement in writing regarding his condition:—

After the patient had been addicted to onanism from his twelfth year, there appeared at the age of nineteen a change in his character. At first there was a gradual mental loathing at everything, a profound general *ennui.* Hitherto he had seen only the bright side of life, but now everything was viewed from the dark side, and soon the idea of suicide entered his mind. In a year after this the idea left him, and he then considered himself the object of scorn by others. He thought that everybody laughed at his appearance and his manners, and he several times heard, as well in the streets as in the house amongst his relations and friends, *reproaches directed against him.* At last he believed that all the world insulted him; if any one coughed, sneezed, laughed, put his hand to his mouth, or a pocket-handkerchief before his face, it made on him the most painful impression—sometimes angry emotions, sometimes deep depression and an involuntary flow of tears. He was indifferent to everything, and always engrossed with his ideas; he sought solitude, and society was painful to him. He owned that he may have had hallucinations, but felt convinced that his ideas were not without foundation; that his countenance was somewhat strange; that persons could read in it his fears, and the thoughts which tormented him.

He now experienced a weight in his head, a sort of pressure on the brain; he was weak, passionless, sleepy, and dull. Every movement fatigued him, and yet he had the constant desire to change his position. He felt that he had become old; for the last few months his depression had been increasing; *for the past five years nothing had made on him a cheerful impression, everything had oppressed and annoyed him;* he was anxious, bashful, perplexed, incapable of acting or of speaking: "The Spirit of life has withdrawn itself from me."

For the past nine months, the patient had completely renounced the practice of onanism, and yet his condition became every day worse.

He had inveterate constipation; complete absence of erections and sexual desires; about one to two pollutions in a month. The urine always contained a copious flocculent sediment, like a thick decoction of barley, and decomposed rapidly. After each stool, a viscid fluid, like thick gum, appeared at the orifice of the urethra. The urine was voided frequently; there was irritability of the seminal ducts, testicles, and particularly of the urethral mucous membrane, and redness of the urethral orifice. Cauterization of the neck of the bladder and prostatic part of the urethra was resorted to. This was followed by a gradual improvement, which was furthered by continuous tepid baths. Complete recovery and re-establishment of the sexual function resulted.—Lallemand, 'Des Pertes séminales,' i., p. 357.

§ 120. The modes of expression of the mental pain experienced in melancholia are so diverse and so multifarious, that, founding upon these principal differences, *certain forms and varieties of melancholia* have been constituted.

In so far as the difference extends merely to the *form* and *subject* of the *delirium*, which often agree with the most salient causes of the mental affection, the classification of such varieties is of minor importance. According to this view, we have to note the following chief sub-forms:

1st. *Melancholia religiosa* is the name given to that form of melancholia in which the delirium centres chiefly upon religious ideas, the patient's principal delusions being that he has committed fearful sins, the terror of being punished by hell, and that he is a castaway, etc. It is frequently owing entirely to external accidental influences that the internal feeling of anxiety is exhibited, as anxiety on account of sin; or that the patient, in his mournful perversion, seeks the consolations of religion, which here indeed have not the expected influence, but frequently only result in increasing the anxiety. In such cases we must beware of confounding the effect with the cause. If it can scarcely be denied that the constant calling forth of such ideas of contrition, and fears of the punishment of hell, and particularly that gloomy and ascetic manner of viewing the affairs of this world, do paralyze the energy of the soul, favor the ascendency of mournful thoughts, and promote in weak minds a state of moral distraction and sad emotion which may thus most essentially contribute to the development of melancholia, still, in the vast majority of cases, those religious delusions of the melancholic are to be regarded as symptoms merely of an already existing disease, and not as the causes of the affection.

This form of *religious melancholia* must be carefully distinguished from that other form of insanity, in which the predominating delusions are also religious, but assume a gay, audacious, and exalted form—where the patients imagine that that they are either God himself, or are most intimately related to God, the angels, and heaven. This form differs widely and entirely, in a psychological point of view, from melancholia, and we shall speak of it when we come to consider the forms of exaltation in detail.

The symptoms are also similar in that interesting form of melancholia in which the sentiment of being governed and overcome manifests itself in the idea of demoniacal possession, the so-called demono-melancholia, which is met with in all countries (in France, particularly, it is by no means rare[1]), and of which recently, in our own country, ignorance and the grossest superstition have used to the worst ends.

In this form, this foreign evil power by which the patient imagines himself to be governed assumes different demoniacal shapes, according to the prevailing superstitions and beliefs of the epoch and country (devils, witches, etc.), to which, as he may probably at the same time experience some abnormal sensations in different parts of his body, a very limited seat is assigned by the patient,—sometimes one half of his body—sometimes his head, his back, or his chest, etc. It is not uncommon to see, along with this, convulsion of the voluntary muscles, contractions of the larynx which alter the voice in a striking manner, anæsthesia of different important organs, hallucinations of sight and hearing. This delirium is at times accompanied with intermittent paroxysms of violent convulsions, evidently analogous to epileptic, or still more frequently to hysterical attacks, which are separated by intervals of perfect lucidity.

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[1] M. Macario, "Etudes cliniques sur la Démonomanie," 'Annal. Méd. Psychol.,' i., 1843, p. 400; Esquirol, translated by Bernhard, i., p. 280. See also on this subject—Calmeil. 'De la Folie,' Paris, 1845, i., p. 85; Albers, 'Archiv. f. Physiol. Heilk.,' xiii., 1854, p. 224; Portal, 'Mém. sur plusieurs Maladies,' ii., p. 110; Moreau, 'Du Hachich,' etc., pp. 336, 354; Baillarger, 'Annal. Méd. Psychol.,' vi., p. 152; Schützenberger, ib., viii., p. 261.

That form of melancholia in which the predominant delusion is that the subject of it is possessed by some demon, appears chiefly in females (almost always hysterical women) and in children. The most easy explanation of this physiological phenomenon is found in those by no means rare cases where the trains of thought are always accompanied by a feeling of inward contradiction, which quite involuntarily attaches itself to them, the result of which is a fatal division or separation in the personality. In the more developed cases, this circle of ideas, which constantly accompanies and arrays itself in opposition to the actual thought, asserts a perfectly independent existence; it sets in motion the mechanism of speech, exhibits and clothes itself in words, and appears to have no connection with the (ordinary) *ego* of the individual. Of this train of ideas which acts independently on the organs of speech, the individual giving utterance to them has no consciousness before he hears them; the *ego* does not perceive them; they spring from a region of the soul which is in obscurity so far as the *ego* is concerned; they appear to the individual to be utterly foreign, and are felt as intruders exercising a constraint upon his thoughts. Hence uneducated persons see in these thoughts the presence of a strange being. In some cases we find in the extravagant discourse of these women or children a vein of poetry or irony utterly at variance with the opinions which they formerly most dearly prized; but usually the demon is a very dull and trivial fellow.

Since the publication of the first edition of this work, I have had the opportunity of studying several cases of demonomania in various stages, of which I shall here give *two* interesting examples.

EXAMPLE XV.—*Attacks of mental disorder, occurring every two or three days, presenting particularly the character of ideas of opposition.*—M. S—, a peasant, æt. 54, had, when twenty-two years of age, every night for three months, an attack of violent nightmare and hallucinations of hearing. At the age of thirty, she gave birth to a child; the menses never reappeared, and severe hæmorrhoidal disease of the rectum developed itself. The appearance of the patient is good, and, on tactile examination, nothing more than slight anteflexion of the uterus is found. When she was between thirty and forty years of age, there gradually appeared a disease occurring in paroxysms, and which became more and more fixed. The attacks occurred every two or three days, and in the interval the patient was perfectly well. They commenced with pains in the head, loins, and neck; palpitation, anxiety, great exhaustion; occasionally symptoms of globus and hysterical convulsions. She was obliged to lie in bed, became completely apathetic, could no longer connect her thoughts, and there was manifested, as a mental anomaly, an internal contradiction against her own thoughts and conclusions a constant immediate opposition against all which she thought and did. An inward "voice," which she, however, did not hear in her ear, opposed everything which she herself would do (for example, even against the mere lying in bed, which her condition renders necessary), especially, however, against all elevation of the sentiments—praying, etc. The voice is always wicked when the patient would do good, and sometimes calls to her, but without being heard externally, "Take a knife and kill yourself!" The patient, who is a clever woman, says on this subject, that she almost believes that a strange being, a demon, is within her, so certain is she that it is not herself who does this. I took the patient into the clinique at Tübingen, and there had frequent opportunities of observing the attacks. During them she seemed much heated, congested, had an obscure and confused expression, was not feverish (temperature normal). The attack lasted from twenty-four to forty-eight hours. On one occasion at the commencement, when the head was much congested, venesection to a small amount was performed, which only temporarily relieved her. The hæmorrhoidal affection was much improved by the use of an electuary of pepper, but the attacks continue without change. (Original observation.)

EXAMPLE XVI.—*Chronic demonomania.*—C. S—, an unmarried peasant, æt. 48, voluntarily presented herself at the clinique, because she was possessed by spirits. Her father became a little strange as he advanced in years; her sister and sister's son are insane. The patient had a child at the age of nineteen; she nursed it for three years, and fell into a state of anæmia, with extended pains of the limbs, and sometimes convulsions. For a long time she had convulsive movements of the mouth. Three years after the first appearance of the disease (about thirteen years ago), "the speaking out of her" commenced. From that moment, all kind of thoughts or words were expressed unintentionally by the patient, and sometimes with a voice different from her usual. At first it seems to have been not so much opposing, as quite indifferent and even reasonable remarks, which accompanied the thoughts and language of the patient: for example, "it" said, "Go to the doctor," "Go to the priest," or "Thus, thus you must do it," etc. Gradually these indifferent remarks were succeeded by other more negative, and at present the voice sometimes simply confirms what is said by the patient, at others it derides and mocks it: for example, when the patient says anything which is right, the voice says after her, "You, that is a lie; you, that you must keep to yourself." The tone of the voice in this speaking of "the spirit" is always somewhat (sometimes entirely) different from the ordinary voice of the patient, and she looks upon the fact of her having another voice as a leading proof of the reality of the spirit. "The spirit" often commences to speak with a deep bass voice, then passes to a pitch lower or higher than the ordinary tone of the patient; occasionally it passes into a sharp, shrill cry, which is followed by a short ironical laugh. I have myself often observed this. Besides those words spoken by "the spirit," the patient heard inwardly, and almost incessantly, a great number of spirits speaking. Sometimes she had actual hallucinations of hearing, but never of sight. Praying rendered the state which we have described still worse; it increased the restlessness. In church, however, she could, from awe of the congregation and clergyman, restrain the voice of the spirit; she could also read aloud from the prayer-book without being disturbed. Sometimes her discourse had a slight taint of nymphomania; she said that the spirits caused her to have obscene thoughts, and to express them: she had pruritus pudendi. The patient never knows, until it is spoken, what the spirit would say. Sometimes the power of speech is altogether denied her for a certain time. In all the phenomena which we have described, the greatest and invariable uniformity prevailed, and her condition, which for a long time had been fixed and stationary, continued the same during the short period during which she was under treatment. (Original observation.)

EXAMPLE XVII.—*Convulsive attacks, with ideas of possession and plurality of the personality, of short duration, in a child.*[1]—Margaret B—, æt. 11, of lively disposition, but a godly, pious child, was on the 19th January, 1829, without having been previously ill, seized with convulsive attacks, which continued with few and short intermissions for two days. The child remained unconscious so long as the convulsive attacks continued. She rolled her eyes, made grimaces, and performed all kinds of curious movements with her arms. On Monday, the 21st January, she assumed a deep bass voice, and kept repeating the words, "I pray earnestly for you!" When the girl came to her senses, she felt tired and exhausted. She was perfectly unconscious of what had passed, and merely said that she had been dreaming. On the evening of the 22d January, another commenced to speak in a tone distinctly different from the forementioned bass voice. This voice spoke almost without intermission as long as the crisis lasted, that is, for half hours, hours, and even longer; and was only occasionally interrupted by the bass voice, which still repeated the forementioned words. In a moment this voice would represent a person different from that of the patient, and perfectly distinct from her, speaking of her always objectively and in the third person. There was no confusion or incoherence in the words of the voice, but great consistency was shown in answering all the questions logically, or in skilfully evading them. But that which principally distinguished these sayings was their moral, or rather their immoral, character. They expressed pride, arrogance, mockery, or hatred of truth, of God and of Christ. The voice would say, "I am the Son of God, the Saviour of the world—you must adore me," and immediately afterwards rail against everything holy—blaspheme against God, against Christ, and against the Bible; express a violent dislike towards all who follow what is good; give vent to the most violent maledictions, a thousand times repeated, and furiously rage on perceiving any one engaged in prayer, or merely folding their hands. All this might be considered as symptoms of a foreign influence, even although the voice had not, as it did, betrayed the name of the speaker, calling it a devil. Whenever this demon wished to speak, the countenance of the girl immediately and very strikingly changed, and each time presented a truly demoniacal expression, which called to mind the scene in the 'Messiade,' of the devil offering Jesus a stone.

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[1] We give the case as narrated by the patient in order to show the artlessness of the story. See also what is said further on regarding the psychical condition during an epileptic attack.

On the forenoon of the 26th January, at 11 o'clock, the very hour which, according to her testimony, she had been told by an angel several days before would be the hour of her delivery, these attacks ceased. The last thing which was heard was a voice from the mouth of the patient, which said, "Depart, thou unclean spirit, from this child!—knowest thou not that this child is my well-beloved?" Then she came to consciousness.

On the 31st January, the same condition returned with the same symptoms. But gradually several new voices appeared, until the number had increased to six, differing from each other partly in their tone, partly in their language and subject; therefore each seemed to be a voice of a special personality, and was considered as such by the voice which had been already so often heard. At this period, the violence of the fury, blasphemy, and curses reached their highest degree; and the lucid intervals, during which the patient had no recollection of what had occurred in the paroxysm, but quietly and piously read and prayed, were less frequent and shorter in duration.

On the 9th February, which, like the 31st January, had been announced to her as a day of delivery, this most lamentable trouble came to an end, and, as on the former date, after there had proceeded from the mouth of the patient the words, "Depart, thou unclean spirit!" "This is a sign of the last time!" the girl awoke and since then has continued well. (Kerner, 'Geschichten Besessener,' Stuttg., 1834, p. 104.)

§ 121. 2. It is not uncommon to meet with melancholics who imagine that they have entirely lost their personality, and that they are changed.

Melancholia metamorphosis.—We have already adverted to those ideas which depend upon general and partial dys- or anæsthesias; as where the patient imagines that he is dead, that his limbs are made of wood, etc.; and also to those delirious ideas, proceeding from hallucinations, of being transformed into some unsightly beast. But of much more interest, as well in a psychological as in a pathological point of view, are those cases in which the sufferer believes that he has changed his sex, men imagining themselves to be women, and *vice versâ*. This delusion, it is true, is by no means confined specifically to melancholics, but it may be developed during the course of this disease, and appears in many cases to be connected with a disease of the genital organs, in which the sexual sensations disappear.

Thus, Lallemand speaks of a patient who imagined himself to be a woman, and wrote letters to an imagined lover. The autopsy discovered enlargement and induration of the prostate gland, abscesses, also obliteration of the ductus ejaculatorii, with dilatation of the vesiculæ seminales and of the vas deferens. ('Des Pertes séminales,' i., p. 64.)

M. Leuret also records some facts concerning individuals who imagined that they had changed their sex. In general, such cases are rare; it is more common to find in the French asylums, *e. g.*, the Salpêtrière, the delusion that the other female patients are changed into men.

§ 122. 3. Another variety of melancholia is that form which is characterized by a longing for one's native land, and by the predominance of those ideas which refer to a return to one's home—HOME-SICKNESS. An analogous affection is sometimes developed in prisoners by want of employment and frequently also by the co-operating influence of bad nourishment, damp cells, and onanism. Nostalgic melancholia is somtimes accompanied by symptoms of congestion of the head, and even of cerebral inflammation (Larrey); in this form, too, the same kind of hallucinations appear (visions of home scenes, etc.). Not unfre[illegible] we see individuals affected with a greater or less degree of nostalgia commit acts of violence (for example, the murder of young children, incendiarism, etc., by servants). Those acts proceed more frequently from evidently selfish motives, as from the desire to escape from a forced and painful position, than from the impulse, which also comes involuntarily in the melancholic, to procure a certain degree of solace through the perpetration of some frightful deed.

Naturally, home-sickness is not always a mental disease: this is of importance in a medico-legal point of view. In itself it is a mournful disposition of spirit suggested by external circumstances. It becomes insanity when this disposition so strongly impregnates all the faculties of the mind as utterly to exclude the entrance of any other sentiment, and when it is accompanied by delirious conceptions and hallucinations; a state in which physical derangements—*e. g.*, loss of appetite, emaciation, etc.—are seldom absent. In short, home-sickness ought *in foro* to be regarded as a mental affection only when it presents the usual signs of insanity. The want of reflection which is the most important point in concrete cases, ought not to be admitted when the individual is perfectly competent to engage in his usual avocations and perform his duties, as is the case with many of those young incendiaries afflicted with home-sickness.

It is of more importance to distinguish various form of melancholia according to the *different relation of the* emotional nature; of the will and of the actions. Thus the conditions which we have just been considering may present important modifications in two different and, in some degree, opposite ways. On the one hand, they may proceed to a state of still deeper self-concentration with complete loss of will, or more usually with convulsive tenacious effort. On the other hand, in these states, new desires and new movements of the will may appear, corresponding to the general negative disposition, which either manifest themselves only in one isolated act of violence, or in a continual outward restlessness and excitement; when the melancholia passes into the form of mania.

According to this view, we may consider, as the principal forms of melancholia, the following:

1st. *Melancholia where the subject of it is lost in self-contemplation. Melancholia with stupor* (usually described by the French writers *Georget, Etoc-Demazy, Baillarger*, etc., by the not very appropriate name of "stupidité," though properly understood by the latter according to its nature[1]).

2d. *Melancholia with manifestation of negative destructive tendencies, particularly with certain acts of violence* sometimes directed against self (the so-called suicidal mania), sometimes against other persons and inanimate objects (homicidal mania, and monomania of destruction so far as these cases are connected with melancholia).

3d. *Melancholia accompanied by persistent excitement of the will,* in the stage of transition into mania.

SECTION III.—*Melancholia With Stupor.*

§ 123. That form of melancholia in which is represented the highest degree of self-absorption under the outward form of stupor, is not only of the highest theoretical importance on account of the well-marked mental symptoms, and of the very characteristic anatomical lesions in the brain, which exist in some cases; but on account of its being so often and so readily confounded with dementia, which may lead to serious errors both as regards prognosis and treatment.

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[1] Baillarger, "De l'Etat désigné chez les Aliénés sous le nom de Stupidité;" 'Annal Méd. Psychol.,' i., 1843, pp. 76 and 256. A later article by the same physician ('Annal. Méd. Psychol.,' 1853, v., p. 251) bears the title, "De la Mèlancholie avec Stupeur." Guislain included this condition in part under "Ecstasy."

Really the patients in the higher degree of these states present to appearance the very picture of dementia. They are perfectly dumb, completely passive, they only move when compelled by some strong external motive; their whole bearing is that of stupidity; the expression is that of general profound mental oppression, of a veritable annihilation; but the glance of such patients does not indicate the nullity proper to dements—it expresses a painful emotion, sadness, anxiety, or concentrated astonishment. In the more advanced degrees there generally exists anæsthesia, sometimes partial[1] and sometimes general, of the surface of the skin, and a condition of the higher organs of sense whereby the impressions of sight and of hearing are rendered quite indistinct and confused, and frequently so perceived as if they came from a distance; perhaps in some cases there is an increase of that cerebral paresis of sensation of which we have already spoken several times (§ 50, § 114).

The voluntary muscles appear at times to be perfectly rigid and on the stretch, sometimes benumbed; it is not uncommon to find such patients in a cataleptic condition; and many of the observations concerning so-called catalepsy belong in reality entirely to this form. The mobility of the members under the control of the will is always very much diminished, occasionally almost suppressed. There is a condition like that of restraint of all the motory functions of the brain.

In such circumstances, the patients have in the majority of cases lost all consciousness of time and place, as well as the appreciation of their bodily necessities: consequently, they are in the highest degree unclean—require to be fed, to be clothed, to be put to bed, etc. Usually they then emaciate rapidly, marasmus speedily comes on, and death is by no means uncommon in this form of melancholia.

In what condition is the intellectual life of the sufferer during the course of this disease? On this subject certain patients have, after their recovery, given us the most remarkable information. So far from experiencing that total psychical void which is proper to dementia, the mind in the great majority of instances retains its normal activity. But the patient, owing to this abnormal condition of the sensorial perception, unconscious of what goes on around him, lives in an imaginary world. So far as he is concerned, all reality has disappeared, all around him is effaced and transformed. An intense internal anxiety constitutes the fundamental state which torments him almost to suffocation, and from this proceed ideas of being threatened every moment with misfortunes; as houses going to fall upon him, of the world coming to an end, of total annihilation of everything, as well as certain delusions of having committed some frightful crime, of depravity, etc.

The sufferer is unable to exert his will, and therefore feels the impossibility of freeing himself from the terrors which threaten him on all sides. Very frequently he cannot afterwards tell why he was incapable of the least exercise of will, why he could not reply, why he could not cry out. Esquirol[2] has, however, acquainted us with the interesting declaration of a patient after his recovery. "This want of activity was due to the fact that my sensations were too feeble to call forth an exercise of will." But this absence of will is most evidently manifested in in the utter passiveness, inactivity, and immobility of the patients; as well also by the intercurrent fits of intense activity which sometimes occur, in the same way as many patients may have now and then a short moment of consciousness, and obtain a glimpse of the actual world.

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[1] Sc. Pinel, 'Traité de Pathol. Cérébrale,' Paris, 1844, p. 250.
[2] 'Geisteskrankheiten,' von Bernhardt, ii., p. 125.

Very often this external insensibility, this suppression of the effort, and the exclusive sad delirium, are accompanied by hallucinations and illusions of the same nature. The patient hears voices which seem to reproach him, to insult him, and to threaten him with death; or a confused noise of bells, trumpets and cannons, etc. He sees witches, funeral processions, subterranean vaults, volcanic craters, which appear to yawn at his very feet. He sees, also, the most cherished of his relations martyred, etc. He fancies himself in a desert, in hell, chained to the galleys; in one word, the entire subjective change which is produced in his sensorial perceptions, and the consequent transformation in all impressions, causes all external objects which he still perceives to appear only in the forms and figures colored by the predominating sentiment (see examples)—a state which is also characterized by a considerable degree of confusion of ideas.

In many ways this condition presents the greatest similarity to a state of half-sleep or dream. The production of emotions of ideas and thoughts of a mournful and painful description find an exact analogue in the appearance of peculiar new and disagreeable sensations (formication, pricking, cold) in the deadened sensory nerves; and we shall see that this comparison is only the more true because in a large proportion of these cases we are able to prove the existence of an evident pressure upon the brain. The patients themselves, when they again commence to become more lively, to feed themselves, and to do a little work—in short, to convalesce—are as astounded as if they were just waking up, and often ask where they are, and only gradually recover themselves. They then compare their actual state to a dreadful dream, and their convalescence to an awakening therefrom.

§ 124. Still, there is not always present during the course of this form of melancholia such a multiplicity of painful sensations, ideas, and images as have been mentioned. In many cases it is rather a half-sleeping state, without distinct dreams or lively hallucinations—a state of self-absorption, of estrangement from the outer world, in which little else is perceived than the feeling of profound internal disturbance and absence of will; where the intellectual faculties, it is true, seem to be in a state of abeyance, but yet the patient retains the consciousness of his condition. Perhaps, indeed, it may be because the patient cannot give a good account of his state, or at best can only feebly recall it, that psychical anomalies so striking in themselves are so little known.

This, too, may serve to explain why several distinguished observers (Esquirol, Georget, Ellis[1]) have considered these conditions to be dementia, and the fact propounded by M. Etoc-Demazy (1833), and most erroneously generalized by Sc. Pinel (1840, 1844), that in certain of these patients a cerebral œdema, and consequently compression of the brain, is by no means unfavorable to this view of the matter. But, in the first place, this cerebral œdema is by no means constant; and further, the declarations made by patients after their recovery are of themselves sufficient most unequivocally to clear up the difference between this form of melancholia and dementia. There is the same difference between melancholia with stupor and dementia, as between temporary diminution in the sensory nerves of sensibility to external impressions, with pain and new abnormal sensations on the one hand, and complete and persistent anæsthesia on the other. But as the two conditions may depend on the same cause (compression), and while it is not rare to see these two states succeed each other, and rapidly transformed the one into the other, so also this form of melancholia, as melancholic stupidity, may, when it lasts for a lengthened period, become transformed into actual persistent weakness of the intellectual faculties, with cessation of the painful emotions, into dementia,—into conditions, therefore, where the intellectual activity is not merely restrained, but actually persistently and most profoundly destroyed.

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[1] Ellis, 'Traité, etc., par Archambault,' Paris, 1840, p. 199.

That which outwardly distinguishes these two states over and above the expression of the countenance, and particularly of the aspect of the patient, is, first, in many cases the primary and very rapid development of this melancholia with stupor, and further, the almost universal emaciation, the sallow complexion, the irregularity of the secretions, the want of sleep, the great opposition to passive movements, the refusal to take food, and the attempts to commit suicide—phenomena which are never met with in dementia.

When melancholia with stupor does not pass into dementia, it is rarely prolonged beyond a few months; many sufferers from it recover, and recover generally quickly as if awaking from a dream. Drastics and vesicatories seem in many cases to be of the utmost service. Death sometimes supervenes as the consequence of an augmentation of the appearances of cerebral compression (very slow pulse, etc.); sometimes, also, as the termination of a gradually increasing marasmus, depending upon intense intestinal catarrh or pulmonary phthisis. I once saw a case of suicide in this form of melancholia.

Melancholia with stupor is sometimes developed as a primary affection, especially in the case of young female patients, as the consequence of a profound mental shock: sometimes, also, it makes its appearance after attacks of epilepsy, of mania, or it may even alternate with the latter.

EXAMPLE XVIII.—*Melancholia with stupor consecutive to remittent fever; recovery.*—A. B—, æt. 25, a government official, was admitted into Charenton on the 12th August, 1833. At the age of fifteen he had an attack of insanity, and another at the age of twenty-two; the first lasted for six weeks, the latter for fourteen days. B— had been for six weeks ill with intermittent fever, and suddenly, without any appreciable cause, the insanity appeared after several days' suffering from violent headache. The symptoms were those of cerebral inflammation; convulsions occurred several times in three weeks, and on more than one occasion the patient attempted suicide. On admission, the countenance was pale; the eyes fixed, widely open, and directed to the ground; his physiognomy was expressionless and dull. B— remained the whole day sitting in the same place, and appeared quite strange to all around him. To questions which had to be several times repeated and spoken in a loud voice, he replied in monosyllables slowly and softly pronounced. In walking, he supported himself on the wall, or on other persons, and proceeded very slowly: he offered resistance when taken to the bath. Memory appeared to be completely suspended; he required to be fed, and was very dirty in his habits. The cutaneous sensibility was dull, the sleep prolonged, and the appetite great. Esquirol prescribed a blister to the nucha. B— complained of the pain, and immediately began to improve. His replies became longer and more loudly spoken; he declared that he could not develop

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his ideas, something prevented him. The physiognomical expression and dirty habits still continued. Sometimes he burst into loud laughter when he caught a glimpse of a patient clothed in a linen blouse. By the 15th of October the improvement was very evident; he was cleanly, and had begun to play on the piano. In December his former lively expression returned, and his intellect appeared completely developed. B— compared the state in which he had been for the past three months to a prolonged dream. All around him seemed changed: he believed in a kind of general desolation; the earth trembled and moved under his feet; he seemed every moment in danger of stepping into an abyss. He held by those who were near him, in order to prevent them from stepping into the chasms which appeared to him like the mouths of volcanoes. He imagined that the bath-room was hell, and that the baths were boats. The blister he believed was the brand of a galley-slave, and that he thereby was forever dishonored. The persons who surrounded him he took for resuscitated dead. He saw his brother in the midst of torments; he heard the cry for help of his relations, and each scream was to him like the thrust of a poignard. The crack of firearms was heard on all sides, and the bullets penetrated his body without doing him any injury. His mind was all chaos, confusion, delirium. He could not distinguish night from day, and the months seemed years. He blamed himself for all his ailments, and therefore sought to commit suicide. The more he suffered, the more contented was he, for he believed that his troubles were the just punishment of his crimes. At the commencement of his recovery, a letter which he received from his brother assisted greatly in bringing him to a correct view of his position. (Baillarger, loc. cit.)

Example XIX.—*Intermittent melancholy during the menstrual periods; continued melancholia with stupor. Recovery.*—Mrs. M–, æt. 44, was admitted into the Salpêtrière on the 24th October, 1842. During the menstrual period, the patient made several attempts at suicide; her reason rapidly returned, and by the beginning of November she was completely well: she was dismissed, but on the 25th November the delirium set in anew, and she was brought back to the hospital. During menstruation she made a new attempt at suicide. The patient is calm, listless, and sad; the countenance stupid, and the glance unsteady. Her answers are short and slowly pronounced; she is unable to collect her thoughts, to remember the days or the months; in short, to have a clear idea regarding anything. Her head is heavy and weary. She is sad without knowing why; she believes that she has committed many sinful deeds, but does not know what they are. All around her seems changed. She has ringing of the ears and hallucinations of hearing; when she falls asleep, she sees shadows and figures; suddenly she awakes from fright. The bowels are constipated, the appetite good; pulse 100, skin cool. Laxatives, encouragement to do some work, forced promenades, society, and baths, were prescribed and followed by improvement.

On the 27th December the menses returned, without attempts at suicide or aggravation of her condition. After their cessation the improvement was very rapid; she voluntarily engaged in household work, and became communicative.

On the 6th January her reason had completely returned, and she communicated the following:

During the delirium it seemed to her as if she were surrounded by fire, which burned her, but she did not feel the pain; she smelt abominable odors, and her food had no taste. The nights appeared twice as long as ordinary. She heard voices around her, but could not distinguish the words. At first she thought that she was in prison, and took the patients (female) for disguised men. In the morning she saw the objects around her more distinctly than in the evening. Just at the commencement, she felt persuaded that she was about to be thrown into a kettle full of boiling water, and thought that she heard persons putting the coal on the fire. The reason why she attempted to commit suicide was that everything around her was transformed, and that she herself was the cause of it. She thought that she was to blame for all the hardships and complaints of the patients around her, and that therefore it was better that she should die. (Baillarger, loc. cit.)

Section IV.—*Melancholia with Destructive Tendencies.*

§ 125. In melancholia this emotional state of uneasiness, of anxiety, and especially of mental suffering, gives rise to certain impulses and directions of the will which are manifested in external actions, which always assume a negative, gloomy, hostile and destructive character. The negative ideas and feelings which here pass into effort, the acts which are the result of them, may be directed either against the individual himself, against other persons, or finally against inanimate objects; and according to the difference of the outward act, these cases have been described as different monomanias (monomania of murder, suicide, arson, etc.).

A. *Melancholia with suicidal tendencies.*—The pathological and etiological history of suicide does not appertain entirely to the province of mental medicine; in fact, whatever certain scientific authorities[1] may assert, we are not warranted in coming to the conclusion that suicide is always a symptom or a result of insanity. There is no insanity present where the feeling of disgust with life is in exact relation to the actual circumstances; where evident moral causes exist which sufficiently account for the act (§ 37); where the resolution has been deliberately made, and might have been abandoned had the circumstances changed; and in which we discover no other symptom of mental derangement. When a man of very delicate feelings puts an end to his existence, that he may not survive the loss of his honor, or of some other highly valued possession which forms an intimate part of his intellectual being—when a man prefers death to a miserable, contemptible life, full of mental and physical ills,—morality, indeed, may call him to account for the deed, but there exists no ground on which we can consider him insane; the abhorrence of life and the idea of self-annihilation correspond to the intensity of the painful impressions which bear upon the individual, and it is after deliberate reflection that the act is resolved upon and perpetrated. But the cases which come under this category are the rarest; more frequently the tendency to commit suicide depends either upon fully developed melancholia, with all its usual symptoms, or (and this is more frequent) on a state closely bordering upon melanchola of moderate but, at the same time, general painful perversion of the feelings. The apparently deliberate and cold-blooded act of suicide can, when considered *per se*, no more prove the non-existence of insanity than any other deliberate act committed in mental disease. The disposition to originate those states of mental suffering which most generally coincide with exhaustion, coldness, and deadening of the reaction of the feelings, is precisely the same as the disposition to mental diseases. When these have once appeared, they become fixed, and rule the individual the more easily according as a feeble *ego* offers only slight resistance to them (p. 51); they therefore frequently appear as essential result of a previously weak character. They are, however, essentially distinguished from the abhorrence of life which is the result of certain explicable moral causes, by their internal origin (§ 37), by the want of sufficient moral causes to account for the act; frequently by their evident appearance in consequence of some physical disease, by presenting periodic exacerbations without any moral cause; and finally, by being sometimes undoubtedly hereditary. When the whole psychical life is governed by this perversion of the feelings, there arise no limiting or restricting ideas and impulses to resist the thought,[1] be it spontaneous or suggested, of self-destruction; or these ideas and impulses soon become worn out and exhausted, owing to the existence of those which constantly, and with the persevering obstinacy of all other melancholic dispositions of this kind, urge themselves upon the *ego*. Indeed, the more insignificant the outward motives to the deed, the more likely are we to find in the antecedent history of the individual, causes, or even certain symptoms, of incipient insanity; and the more barbarous and the more extraordinary the means employed for the perpetration of the deed,[2] the more are we warranted in considering it to be a result of some morbid perversion of the faculties.

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[1] Esquirol (loc. cit., p. 183). "I believe that I have proved that an individual will only put an end to his life when he is delirious, and that suicides are mentally diseased." Falret, 'De l'Hypoch. et du Suicide,' 1822, p. 137. Esquirol, moreover, expresses himself less absolutely in other parts of his work. Bourdin ('Bull. de la Soc. Méd. Prat. de Paris,' 1845, No. 41, p. 28) has attempted in an elaborate essay to prove the theory that every suicide is a monomaniac. Brierre has recently opposed the opinion of the universally morbid nature of suicide, etc., by the interesting collection of the last writings of very many suicides, and called attention to the ordinary clearness and deliberateness which these writings showed.

Sometimes we see in persons hitherto healthy a suicidal impulse suddenly developed, as a form of raptus melancholicus, with obscuring of the consciousness and all the signs of great exaltation. (Example XX.) Thus in the case recorded by Forbes Winslow, a lady in whom no one had ever remarked anything extraordinary, suddenly during dinner sprang up and attempted to throw herself over the window; she was prevented accomplishing her purpose, and forthwith there was developed an attack of mania. If the suicide has been successful, it would have represented a case of very problematical raptus occurring in a healthy person. In many of those cases in which the individual suddenly resolves to put an end to his existence, and immediately puts his purpose into execution, and where we have failed to recognize the existence of any characteristic delirium, if we attentively examine the facts, we shall probably find that for a long time past the individual has been plunged in the most profound hypochondria; that he has constantly been dwelling upon the state of his health; that he has frequently complained of being unable to command his thoughts and will as formerly; that he has been annoyed with a general weakness, accompanied by vague systems of bodily discomfort, particularly with derangement of the digestive functions. The weariness of life is generally more chronic, which shows itself as spleen owing to weakness of the constitution from hard drinking—that general exhaustion and desolution of mind which arises from various causes, and among others from immorality, onanism, and venereal excesses; sometimes it almost appears as if some slight deviations in the development of the sexual organs might give rise not only to those longing hypochondriac states of mind which we often enough see at the period of puberty, but might also, in some individuals, awaken suicidal impulses.

Cases of suicide occur at all ages of life, even among mere children. We have already seen (§ 92) that it is frequently hereditary, and that it may alternate with other forms of insanity in different generations. It is about three times more frequent among males than females. The most recent and reliable statistics would seem to indicate that it is increasing in frequency at a most astounding and, so to speak, progressive rate. In Berlin, Caspar has demonstrated the correctness of this statement. In France, the statistics of the minister of justice show, during a period of ten years, from 1827 to 1837, the astonishing increase of about one fourth;[3] from 1838 to 1852, the increase still continued; in 1838 and 1839, there occurred one case of suicide in every 12,489 inhabitants; and in 1852, one in every 9340 (Lisle): in 1827 the proportion was only as 1 to every 20,660 inhabitants; and in 1836 it stood as 1 to every 14,338. It is well known that suicide is often propagated by imitation; examples of this kind are numerous, from the case of the maidens of Mileta, of whom Plutarch wrote, to that of the well-known example in the Invalides in Paris, and others of still more recent date. In all times, too, cases have not been wanting where two individals of different sex have together committed suicide, and those in which the person put an end to his existence after having committed some act of violence.

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[1] Imitation of suicide.

[2] See the shocking case of starvation in 'Hufeland's Journal,' 1819; the case of Matthieu Lovat, who crucified himself, etc.

[3] Dufan, 'Traité de Statistique,' Paris, 1840, p. 298.

It is not our intention to enter into details regarding the causes and social significance of suicide, or to enumerate the statistics of different countries in regard to it. As to the latter, and the hundreds of documents which are brought forward to prove, what we have already admitted, viz. the enormous increase in the number of cases of suicide in our time, their authority is of precisely the same value as that of the statement regarding the great increase of insanity (§ 85). The older statistics were both inaccurate and defective, and it is just possible that the increase which it has been attempted to establish may only be apparent; the later statistics being much more exact and complete. Thus, as I have mentioned in the first edition of this work, M. Archambault assured us in 1843, that so far at least as France was concerned, this increase in the number of suicides was not an actual fact ('Ann. Méd. Psych.,' i., p. 147), and that the difference was entirely due to the much greater care and exactitude with which the statistics were drawn up. This is possible, just as it is in regard to insanity in general (§ 85), but not at all probable; it must be admitted that there is an actual increase in the number of suicides, but the rate of progression is not so great as has been mentioned.

Solomon ('Welches sind die Ursachen,' etc., Bromberg, 1861) has, moreover, published some extremely interesting statistical tables, from which it comes out that the number of suicides in Belgium from 1846 to 1855, in Sweden, and even in Paris, so far from increasing in a constant uniform progression, is maintained within certain, not very extended limits. In the central European countries, it is reckoned that at the present day there occurs, on an average, one suicide in every 12 or 15,000 inhabitants: in the East, suicide was and still is rare. At least one-fifth, perhaps one-fourth, of those who commit suicide are drunkards. In France, the greater part adopt drowning as the means of ending their existence; while in England and Germany, hanging is the favorite method. One very mournful fact connected with this subject is the suicide of children. In England, during the space of five years, from 1852 to 1856, out of 5415 cases of suicide, 33 were committed by children under the age of ten years (Buckle). Durand-Fardel ('Ann. Méd. Psych.,' 1855) has collected twenty-six cases of suicide by persons varying in age from five to fourteen years. The motives which usually lead to this mournful end are, as a rule, pitiable as compared with those in adults; fear of punishment, etc. Thus, a boy, aged nine years, killed himself because he had lost a bird; another, aged eleven years, whose case Schlager describes, from disappointed love; another, aged five, threw himself into the water because his mother maltreated him. It is a fact that death does not inspire children with the same fear as it does in the majority of adults, and the weak *ego* is easily overcome by the idea of the thing. Further, in such children there has often, for a long time, been observed something anomalous, a certain perversion of the feelings; as, for example, cruelty to animals (for examples, see Forbes Winslow, "Obscure Diseases of the Mind and Brain," London, 1859, p. 186).

§ 126. We must carefully distinguish (with Guislain[1]), among the actually insane, those cases in which the suicidal impulse is the most essential symptom of the malady, the chief disease, from those in which it appears, merely as an epiphenomenon, during the course of some other form of mental affection. The majority of insane persons in whom this suicidal impulse manifests itself suffer from some well-pronounced form of melancholia. But the psychological motive which gives rise to this impulse is far from being uniform. Often it is an insupportable excess of a general undefined feeling of anxiety which leads the patient to seek relief in suicide; at other times he gives way to this impulse, because he feels that all his feelings have become disagreeable and frightful, and his mind subject to dreary and wicked ideas; in desperation concerning this perpetual yoke, he considers himself unworthy longer to live, and imagines his whole life is evil, abandoned, and impious. Or there arise dismal ideas of general non-existence; the sufferer imagines that the whole world is annihilated, and that consequently he too must put an end to his existence. But that which is perhaps the most frequent occurrence is the presence of hallucinations, in which the profound uneasiness of the feelings, and the still more dismal ideas of self-destruction, take a sensible form, and are presented to the mind of the patient with all the force and reality of objective perceptions (voices which say, "Slay thyself! Slay thyself!" or hallucinations of vision conveying the direct commands of the Deity). Such impulses come in melancholics often very suddenly and transiently (lasting some hours or days); sometimes there appears with the accomplishment of the deed, even though unsuccesful, an actual relief and remission, just as in other cases we observe, after some injury or act of violence has been perpetrated on another person by one of unsound mind, that the feeling of profound oppression which weighed so heavily on the patient is thereby removed, and perfect calm is restored. Many melancholics artfully seize an opportune moment to put into execution the resolution long ago taken, but till now concealed; at other times they openly, one might almost say shamelessly, avow their purpose to commit suicide, and diligently await for weeks and months an opportunity of satisfying this impulse by every possible means, and even before the very eyes of their attendants.

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[1] '*Leçons orales*,' i., p. 244.

Schlager (Prager 'Vierteljahrsschr.,' Bd. 64, 1859, p. 1) observed that in 1000 cases of insanity, 91 who either committed suicide, or made the attempt to do so, almost all were melancholics. In these cases the most important predisposing causes were, cerebral congestions, profound exhaustion caused by previous disease, disappointed love, drunkenness conjoined with mental excitement (here we often see a suicidal impulse suddenly develop itself, and if the commission of the deed be prevented, the patient retains no recollection of what has taken place); in one solitary case fear was the determining cause. Exhaustion of the constitution, anæmia, a chronic cerebral hyperæmia, dysmenorrhœa, chlorosis, the climacteric period, and diseases of the heart, were also observed to have considerable influence in producing this state of mind. The mode of death which these individuals chiefly selected was hanging.

But it is not only in melancholia that we observe this suicidal tendency; we meet with it also in other forms of mental disease. It then depends, not so much on abhorrence of life, as upon all kinds of delirious conceptions, in the more restricted sense of the term; the idea, for example, of martyrdom for the benefit of mankind, of being about to enter paradise, which is presented to their eyes in splendid visions, etc. Further, there occasionally appear, in persons suffering under partial dementia, intercurrent attacks of suicidal impulse, from most intense abhorrence of life, as a form of melancholic or maniacal raptus. In the asylum at Winnenthal, there was, for many years, a mentally weak and partially demented patient (ideas of being the Emperor of China, etc), who from time to time was suddenly (with considerable cerebral congestion) seized with the most intense disgust of life, and it was only by being continually kept under restraint that he was prevented from putting into execution his determination to commit suicide. These attacks lasted for five or six days, and then completely disappeared; on each occasion the withdrawal of some blood from the head seemed essentially to aid in cutting short and diminishing the strength of the fit. Those cases in which the insane kill themselves unintentionally and without wishing to die are to be distinguished from cases of suicide;—when, for example, a maniac in the midst of his delirium mistakes the window for the door, and insists upon making his exit by that means, or when he leaps out at the window in obedience to the command of the Almighty, whose voice he hears saying, "Go to the window, and thou shalt fly as doth a bird;"[1] or when a monomaniac believes that he is commissioned to convert mankind, and in order to convince people that he is really sent from God, and therefore invulnerable, throws himself from a bridge and is drowned;[2]—these are not cases of suicide, for here the patients had no desire to kill themselves. Closely allied to such cases of morbid self-destruction, and falling under the same category, are those examples of self-mutilation, generally the result of melancholia or delirious ideas, in which the patients cut off their fingers, tear out their eyes, cut off their testicles, etc. At times we are warranted in coming to the conclusion that there is in these parts a considerable diminution of the sensibility.

Cases also occur in which persons actually insane *simulate* attempts at suicide; it does not, however, follow that *the mental disease* is simulated. Morel, 'Ann. Méd. Psychol.,' vi., 1854, p. 84, mentions a case of this description.

EXAMPLE XX.—*Sudden appearance of attempts at suicide with obscuring of the consciousness and loss of all recollection.*—A lady still alive, and now (1821) 43 years of age, had hitherto lived in comfortable circumstances, and, excepting occasional hysteric headaches and dysmenorrhœa, in the constant enjoyment of good health. Up to the year 1804, she had never met with a misfortune. Her husband loved her tenderly; her children, whom she herself had partly nursed, were strong and healthy, and her circumstances easy. On the 24th July of this year, however, after she had suffered for several days before from her ordinary headache, but which by this time had disappeared, she was sitting, at half-past three o'clock after noon, in her own house, apparently well pleased and engaged in knitting. Suddenly, and without the least provocation, she sprung up and called out, "I must drown myself—I must drown myself!" whereupon she ran straight to the moat which surrounded the town, and threw herself into it. She was immediately taken out of the water and carried, apparently dead, to her home. A doctor was rapidly summoned, and he speedily restored animation. She, however, remained mute, and stared with widely open eyes fixedly on one spot, paying no attention to the events which passed around her. I saw her for the first time on the evening of the 27th of July. She had, it is true, during the time which had intervened since the attack, calmly submitted to all that was done to her, and even swallowed some medicine; but she had not spoken, nor partaken of food or drink—she had not slept, nor shown interest in anything. When I saw her late at night, she was lying in bed, and sighed continually. When I spoke to her, she started and pronounced my name. A candle was brought, and when she saw me she exclaimed, "My God! where am I, and what has happened to me?" and commenced to weep violently. I soon calmed her. After she had recognized and spoken to her husband, and inquired about her children, she fell asleep and rested undisturbed till morning.

On awaking, she at once cheerfully inquired about all that had happened, and was astonished to hear of her attempt to drown herself, and of the danger into which she had thereby fallen. On my appearance next morning, she laughingly asked what I actually thought and had said of her, and was anxious to know how she could have come to the foolish idea of drowning herself without being conscious of the occurrence or knowing any cause for it. Since then she has had several children, and many things have occurred to disturb her equanimity, but she has never had any such extravagant ideas. With the exception of occasional hysterical attacks and dysmenorrhœa, she has always continued healthy, cheerful, and gay. (Mende, in Henke, 'Zeitschrift für die Staatsarzneikunde,' 1821.)

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[1] Leuret, 'Fragments,' p. 290.

[2] Falret, 'Hypoc. et Suic.,' p. 139.

EXAMPLE XXI.—*Tendency to suicide caused by concealed hallucinations.*—A young man of large fortune had been addicted to onanism, but nevertheless continued to enjoy pretty good health. He had no other cause of annoyance than the remembrance of the Revolution, the principles of which he disapproved of, and had even on several occasions attempted to commit suicide by shooting himself with a pistol, and would use no other means. He remained for two years under my care, during which time he did not speak one word of nonsense; he was cheerful, amiable, well-informed, and sometimes said to me, "Give me a pistol!"—"Why would you kill yourself?"—"Because all seems tiresome." It was not till after the lapse of two years that he informed me that for a long time he had been subject to hallucinations of hearing and of sight. He believed that he was followed by policemen, whom he constantly heard and saw, even between the walls of his apartment, which he believed were double, and consisted of two movable partitions, so that one could hear and see all which he said or did. (Esquirol, 'Maladies Mentales,' i., p. 555.)

EXAMPLE XXII.—*Vague impulse to commit suicide caused by a violent fright during a state of bodily weakness.*—N—, a tailor, æt. 31, had fallen into a state of great exhaustion in consequence of onanism, and had afterwards to submit to repeated courses of treatment by mercury. On the outbreak of cholera in the year 1831, he was so terrified by the report that the patients were drawn from their dwellings with tongs, and otherwise roughly handled, that he fell into a swoon and believed that he was seized with cholera. At first he could not work during the day nor sleep at night, and the idea that he also must subject himself to treatment so frightful set him quite beside himself. He even spent the night with friends for fear of being carried off to a cholera hospital. When at work, his limbs trembled from anxiety: this he considered to be a premonition of cholera, having heard that fright predisposed to it. His appetite left him, and besides he was afraid to eat too much, as too much food and many kinds of it seemed hurtful to him; indeed, he weakened his digestion through abstinence. Being perpetually tormented by fears, he slept little, and dreamed a great deal of deaths and funerals. During the day he could not venture out, for fear of the disease and of the police. This torment threw him into a state of mind so irritable, that the sight of cattle going to the slaughter-house disturbed him very much, because he represented to himself how the knife would be plunged into their throats. At last, when he had somewhat recovered from this anxiety, he one day heard a shot go off; whereupon he became very much afraid, because he thought that some one had committed suicide. On the same evening he learned that a person in the neighborhood had cut his throat. His terror was now so great that he could not sleep at night, because he kept constantly considering how the suicide had committed the deed—what part of his body had he wounded? In vain he attempted to banish these thoughts, which were continually arising anew on the slightest occasion; for example, by a headless figure in the Royal Museum, which represented in his eyes a beheaded individual. If a knife lay before him, it seemed to him as if he must cut his throat, in spite of his horror of it and his love of life. When a knife was put into his hand, he trembled and threw it from him, or laid it under his plate that he might not see it. He constantly thought of violent modes of death: if he saw a rope, the idea of hanging immediately entered his mind; if he crossed a bridge, he felt as if he must jump into the water—therefore he never walked near the edge, but rapidly ran across in the centre of the bridge, in order not to be impelled to throw himself over against his will; if he stood at a window, he felt impelled to jump through it, and therefore retreated in terror. Knives and pistols were presented to him, that he might become accustomed to handle them; but he could not command himself for fear. After this terror had long pursued him, and had at last attained to its highest degree, he voluntarily sought admission into the Charité. Here even this condition lasted for a considerable length of time, but at last complete recovery took place under the employment of continuous bodily exercise and the use of baths. (Marc, translated by Ideler, i., p. 196.)

EXAMPLE XXIII.—*Suicide caused by anxiety and hallucinations.*—A former soldier, æt. 38, received fracture of both legs, which were accordingly amputated. He became dull, and was seized with an attack of mania. He heard voices which continually insulted him, persecuted him, and threatened to shoot him. These were followed by answers which he directed to the voices. The state of hallucinations and anxiety lasted for ten months, in spite of all possible remedies. The patient became always more absorbed in his false sensations; *he persistently refused food in order to withdraw himself from these torments—the voices demand that he should eat no more.* He had to be fed by force; the more feeble he became, the stronger the voices seemed to become: at last he died from exhaustion. (Sc. Pinel, 'Pathol. Cérébr.,' Par., 1844, p. 212.)

EXAMPLE XXIV.—I have at present under treatment a young girl who has prolapsus of the uterus, caused by a violent blow on the os sacrum. Since the accident she suddenly becomes very low-spirited, and suffers from a most peculiar perversion of ideas, and a tendency to suicide whenever, from any exertion, the neck of the uterus presents itself at the orifice of the vagina or passes through it. This remarkable anomaly is prevented by the employment of a pessary. (Guislain, 'Phrénopathies,' 1838, p. 282.)

B.—*Melancholia with Destructive and Murderous Tendencies.*

§ 127. Directly and immediately connected with the suicidal impulse, is the morbid tendency to injure and destroy other persons or inanimate objects. Not only do these tendencies frequently occur together—not only have these acts of violence towards others, inasmuch as they are often perpetrated upon those most loved and cherished by the patient, fundamentally the same essential character as the tendency to self-injury and self-mutilation—but, in general, both depend upon the same fundamental state of morbid negative emotion, and in both there may be also observed certain differences in the immediate morbid cause.

As to the psychical motives which give rise to these acts of violence in persons *already laboring under melancholia,* these impulses would seem to be due, in part at least, to an actual delirium of the intelligence or of the sensorial perception. To this class belong those cases in which the patients imagine that they are persecuted, or generally injured by others,[1]—where they attribute to certain persons insulting and injurious expressions which they hear of their hallucinations of hearing, and consequently actually commit deeds of vengeance upon them. To these are very closely associated those violent deeds which are suggested under the idea, evidently melancholic, that everything in this world is bad, that everything is abandoned and lost; that, for example, the innocent children may be best delivered from the misery of this world by an early (violent) death; or the patient, without the slightest ground for any such fear, imagines that there is now left to him no possible means of existence, and that soon he will perish of hunger and misery, etc. These ideas, more or less obscure, not unfrequently discover themselves in hallucinations, in which the patient is directly commanded to kill, it may be children or wife; and falling under nearly the same category, are those hallucinations of hearing which partake of religious fanaticism (voice of God or of angels), in which the patient hears the command to go and follow the example of Abraham, and such like. Such acts spring from vague ideas of the necessity of sacrificing some person, other than but closely connected with the patient, an expiation of some terrible but imaginary crime; while in other cases the patient, regarding himself as a felon shunned by all, commits some dreadful deed in order to draw down upon himself the well-deserved punishment of death.

In regard to a great many of these cases, including those which belong to the following paragraph, there is a most important and characteristic circumstance which we have already adverted to in speaking of suicide, viz., the freeing of the patient from his painful emotions and frightful thoughts by the fact that the deed committed has become objective to him; the ease and calm which the patient gains by the manifestation of his disposition, by the accomplishment of the deed—a circumstance which gives to these acts what has been termed a critical significance. In the following very simple cases, there may be recognized various modifications of such mental disburdening; something similar is frequently observed after the actual accomplishment of deeds of murder depending on melancholic motives.

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[1] Thus, for example, the cases which have several times occurred of patients attempting to murder their physicians. See Marc, translated by Ideler, ii., p. 9. We would refer generally to the rich collection of cases contained in this work to illustrate this chapter.

EXAMPLE XXV.—A case of melancholia presented a character which is not uncommon, and which in its higher degrees, and when it has attained its full development, represents a form of "moral insanity." The patient, a married lady, aged 45, fell into a state of profound melancholia, with constant anxiety. She declared that whenever she heard or read of a crime, she felt an intense desire to commit the same crime, but at the same time she also felt a very great terror of its accomplishment. It was impossible for her to recount all the terrible things which passed through her mind. She added that every act of violence, whether in word or deed, which she perpetrated on her children or those around her, afforded her considerable relief, and that she had now the greatest difficulty in controlling herself.

The patient recovered under the employment of dilute acids, tincture of opium, digitalis, infusion of quassia, and laxatives. (Guy, "King's College Annual Reports," 1841; 'Lond. Med. Gaz.,' Sept., 1842.)

EXAMPLE XXVI.—A patient who suffered from fissure of the anus and spermatorrhœa, with transitory cerebral congestion, gradually fell into melancholia. He abominated suicide, but an evil genius seemed constantly to urge him to it. The sight of anything with a sharp point, or of firearms, caused him to tremble, and awakened in him an impulse to kill himself, from which he could only free himself by exciting violent pain; for example, by severely pinching some part of his body. He rudely repelled the kind offices of his friends. He detested what was bad, but felt himself involuntarily impelled to commit evil deeds: thus he experienced pleasure in tormenting a lady whom he loved very much, and then seeing her weep. (Lallemand, 'Des Pertes séminales,' i., p. 251.)

§ 128. We frequently see in subjects who, up to that moment, have been in the actual, or at least apparent, enjoyment of perfect health, just as in some of those cases in which there is developed a suicidal tendency (No. XX.), attacks of most violent anxiety with obscuring of consciousness suddenly show themselves; accompanied with frightful hallucinations, during which the patient, in the blindness of his fury, seeks to massacre and slay all who come in his way. These cases, which, judged by their symptoms, appertain more, it is true, to mania, but which, in their psychological relations, represent violent fits of melancholic anxiety, and especially morbid negative emotions, possess, in their want of any actual moral cause, a great analogy to those sudden fits of profound anxiety and severe mental suffering which have sometimes been witnessed as precursors of *epileptic* attacks.[1]

Almost as obscure, in so far as the motives which dictate them are concerned, and yet of the greatest importance in a medico-legal point of view, are those cases where individuals hitherto perfectly sane and in the full posession of their intellects, are suddenly, and without any assignable cause, seized with the most anxious and painful emotions, and with a homicidal impulse as inexplicable to themselves as to others. In such cases there are two categories into which they must be carefully arranged and distinguished.

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[1] See the chapter on epilepsy.

Under the first fall those cases in which those homicidal impulses, suddenly and without external motive, arise in persons who have been hitherto of a lively, joyous, and loving disposition, and incessantly intrude themselves upon their thoughts. Most generally, there arises a profound and mournful division of the consciousness, an internal struggle and storm of the most painful nature with these new and fearful ideas, against which the whole former contents of the *I* resist with all their power, which of course varies in different individuals. Frequently, during the combat, the individual is only able to prevent the total discomfiture and defeat of the *I* by retiring from the struggle and betaking himself to a solitary neighborhood, where the impulse which thus besets him no longer finds an object. Then, after a certain time, these thoughts may again disappear as quickly as they sprang into existence, and the individual is again as he used to be. He scarcely knows how he fell into this painful, terrible dream, and with a feeling of intense relief he breathes again with the knowledge that it has terminated so happily. At other times, however—and fortunately this is rarer—the *I* is compelled to succumb, and the unfortunate one perpetrates the deed, and that too without affording him any advantage, with the certain prospect of a life of shame and misery—indeed, with the certain expectation of the disgraceful death which the last penalty of the law inflicts. This, however, appears to him as a relief, and an actual benefit, as compared with the perpetual anxiety and tormenting struggle in his soul, which he feels he must end at any cost.

EXAMPLE XXVII.—M. R—, a distinguished chemist and amiable poet, of a character naturally pliable and sociable, came to place himself as a patient in one of the infirmaries situated in the Faubourg Saint-Antoine. Tormented with a homicidal impulse, he would often prostrate himself before the altar, and implore the Deity to deliver him from this atrocious propensity, the origin of which he never could understand. When he found that his will was entirely under the control of this impulse, he would run to the head of the establishment and cause him to tie his two thumbs together with a ribbon. This fragile band sufficed to calm the unfortunate R—, who, however, ended by attempting to kill one of his keepers, and he thereafter died in a violent fit of rage. R— had left behind him a collection of letters, in which he attempted to describe his internal sensations. They proved that this desire to kill some one was wholly unaccountable, and arose without any reason whatever, and that it was purely instinctive. These very interesting letters, which I had read in great part, fell into the hands of Dr. Gall, and have unfortunately been lost. (Marc, translated by Ideler, i., p. 169.)

EXAMPLE XXVIII.—Catherine Olhaver, the third surviving child of poor parents, was born in the year 1788, but, in consequence of her mother having been seized with a very severe fever, she was weaned when only six weeks old. The first symptoms of her mother's illness, before any decided signs of her true disease manifested themselves, were shown in the desire to kill her child. To accomplish this fearful plan, she opened one side of her feather coverlet, in order to put the child therein, with the double purpose of suffocating and at the same concealing it. Her intention was discovered in time to prevent her putting it into execution, and immediately thereafter she was seized with the most violent feverish symptoms, which lasted for several weeks. After her recovery, this woman had not the slightest recollection of what had occurred, and devoted herself with all a mother's tenderness to the care of her child. She is still living, and has never again had a similar attack.

In spite of the poverty of her parents, Catherine grew up perfectly healthy, though she was frequently troubled with worms. The menses appeared late in life, but further than this there was no irregularity. She became with child, and on the 21st of January, 1821, she was happily and with ease delivered of a healthy boy, whom she herself began to nurse. Soon after her delivery, she fell into a violent rage, and was attacked thereafter with a fit of epilepsy. This attack, however, was not again repeated. When her child was six weeks old, she took a situation as wet-nurse; and she conducted herself in this capacity with propriety, showing herself of a quiet, cheerful disposition. She lavished the most tender care upon her charge, whose thriving condition gave evidence enough of the attentions bestowed on it by the nurse. At the end of other six weeks, she was again seized with a violent fit of anger on hearing of the death of her own child, the loss of which she attributed to the carelessness of the person who was rearing it. Acute as these impressions at first were, they became speedily effaced, and she only lavished her maternal cares with greater assiduity upon her nursling. At the end of the thirty-second week after her accouchement, the menses again made their appearance, preceded by a slight illness; and about the fourth week thereafter the same thing occurred. From this time, the nursing of the child was evidently too much for her strength. She became pale and emaciated; the child also began to ail, being first seized with intermittent fever, and then with a nervous cough.

On Friday and Saturday, the 20th and 21st of October, the nurse was seized with colic, which, more or less severe, lasted until the Sunday, though considerably modified. At the same time she experienced a certain agitation in her stomach, and anxiety; but this did not last for any time. On Sunday evening, when in the room alone with the two youngest children, the thought suddenly flashed across her mind, on seeing a knife on the table, that she must kill the nursling, who was then lying in her lap, by cutting her throat with the knife. She stated that at this moment she felt a peculiar movement in her belly, like a gurgling, as she expressed it, and gusts of heat towards the head; and she heard, as it were, a voice commanding her to slay the child. The very thought of this made her shudder; so she quickly laid the child upon the bed, snatched up the knife, and flew with it to the kitchen, where she threw it from her, and entreated the cook to go with her, and not to leave her, because she was beset with evil thoughts. The cook answered her that she could not then leave her work, and thereafter she required to go out; so Catherine again returned to the children. Still the thought constantly presented itself; and in order to drive it away, she fell to singing aloud, dancing with the children round and round the room until bedtime. When the cook had again returned home, the nurse begged her to remain with the children, and she would occupy her place. This request the cook refused, and having departed, Catherine went to bed, slept but little, and suddenly awoke with the irresistible desire to murder the child, whose crib stood beside her bed. Happily, at this moment the door opened, and her mistress arrived. This somewhat calmed the girl, because she knew that the mother of the child and her sister-in-law slept in the same room. Still she slept but little, and was very restless the whole night, when, about three o'clock, the murderous impulse was so strong, that she sprang out of bed and ran to wake all those who were present. She now complained that she felt very unwell, and was beset with unholy thoughts, without stating the nature of them. At the same time, she spoke to herself as if she were delirious; suddenly she cried out aloud, "O God, what horrible, what frightful thoughts!" Soon again, "But this is ridiculous, abominable, terrific!" Then she asked with anxiety about the child, whether it was really beside its mother, and then spoke to him in an affectionate and tender manner; and after she had taken some chamomile tea, she became more quiet, and slept till about six o'clock next morning. The day following, she was quite fatigued and overcome, and was constantly attacked with the same paroxysms. She remained perfectly dumb and self-absorbed, with a fixed and frequently ferocious look, and face of unwonted color, and, contrary to her usual habit, took no notice of the child. Finally, about five o'clock in the afternoon, after having three times taken the prescribed draught, she experienced more calmness and relief. Only once after this, during the night between Monday and Tuesday, did this murderous thought again obtrude itself; whereupon she leaped from her bed, and drank of the potion from which she had formerly obtained relief. Since then she has remained free from all similar attacks. On Thursday, she, with many tears, related what had occurred to her.

This attack did not come on synchronously with the return of the menses, and not the slightest cause can be assigned for it. The medicines employed were potio Riveri, emetics, and valerian, etc. The child died in November, and the nurse held it in her arms during the last moments of its life, wearing at the same time the quiet expression of the profoundest pain; and when it finally died, she fell into a state of the greatest despair, which, however, soon passed away, and gave place to a more calm sorrow. (Mende, in Henke, 'Zeitschrift für die Staatsarzneikunde,' 1821.)

EXAMPLE XXIX.—The wife of a shoemaker paid me a visit one day to ask advice about a complaint concerning which she was in despair. She presented all the appearance of sound bodily and mental health, but she was constantly beset with thoughts tempting her to kill her four children, whom, as she said, she loved better than herself. She was afraid lest she should do some evil deed; she was in despair, and felt inclined to throw herself over the window. In such moments she felt an almost irresistible impulse to some such perfectly unaccountable act, and in consequence of which she was seized with a general trembling. Towards other children she felt no such evil disposition, only from her own she must flee and be in perpetual fear of them, and carefully hide all instruments which might possibly fall into her hands. She kept constantly running up and down stairs, in order that by the very motion and fatigue she might drive these notions out of her head. This homicidal tendency lasted for about three months, and then with the return of the menses suddenly disappeared of itself. (Georget, 'Discussion Médico-legale sur la Folie,' 1826.)

Another very characteristic case may be found mentioned in Gratiolet's 'Anat. comp. du Syst. Nerv.,' p. 578; and also in Guislain's 'Leçons orales,' t. i., p. 234 and 240; Ellinger, 'Zeitschrift für Psychiatrie,' 1854, xi., p. 466.

As to these sanguinary impulses, the production of ideas according to the law of contrast (§ 19) is, it is true,[1] almost the only point of connection between them and the normal phenomena of mental life; although there exists a very great difference between the simple fact, that in the fortunate, ideas of want and misery may easily arise—in the lover, ideas of faithlessness—and in him who stands on the brink of a precipice, ideas of a headlong plunge may be suggested, and the actual fulfilment of those ideas which lead to actions, and continually and persistently urge towards their outward expression.

Somewhat more distinct in their psychological motives are those cases which come under the second category, in which such impulses originate in those who have been long overwhelmed with grief, concentrated in self, and have become actual misanthropes. The more an individual gives himself over to habitual morbid brooding upon his own condition, with a negative disposition of the feelings, the more does he retire upon himself, and withdraw from that interchange of friendly and benevolent sentiments which knit man to man; and gradually he arrives at that point where he feels himself excluded from all intercourse with his fellows, and all that interests mankind at large. In such cases we often see developed a feeling of bitter animosity towards the world, which becomes to such individuals perfectly hateful, gloomy, and fearful; and there frequently arise impulses to commit these indeterminate acts, by which the individual thinks to repay the world, in some splendid crime, for all these griefs and imaginary evils, as well as all those painful impressions, the cause of which he is ever seeking, not in himself, but in the outer world. At times, the persons who are most frequently with the patient draw upon themselves his most intense hatred, and become the victims of these impulses which the patient suddenly discovers. More frequently, however, it is neutral persons whom he attacks, as if the feeling of hostility which animates him recognized in them representatives of a race which he detests. Frequently it is the innocent play of a child which irritates him, or the beauty of a woman which incites in him this murderous disposition.

The well-known case of Henrietta Cornier appeared for a long time to belong to this category (Marc, ii., p. 48, 41). But Bonnet ('De la Monomanie du Meurtre,' Bordeaux, 1852) tells us that the girl Cornier informed her prison companions that it was to avenge herself on her lover, with whom she had been living in the most intimate relations, that she slew her child, after having long premeditated the crime. Examples of similar tendencies in children are not wanting (Marc, i., p. 66; Esquirol, ii., p. 61; and in the work of Lallemand, iii., p. 185, 186). In many of these cases we are able to establish the existence of different disturbances of the general health, to which, from experience, we are bound to attribute a certain influence in the production of cerebral disease, or even of the actual symptoms of this affection, *e. g.*, persistent or transitory congestion of the head, menstrual derangements, onanism, diseases of the genital organs, sensations of anxiety proceeding from the cardiac region, weakness of vision, general feeling of illness, weakness, constipation, etc. We have not here to do with the consideration of these facts, in a medico-legal point of view. We are aware that such estimation is based purely upon scientific grounds, resulting from the most minute research into the psychological and organic causes which have given rise to these tendencies. It is contemptible to see how often science is constrained, as a last remedy, to have recourse to the theory of those morbid impulses, to justify crimes, and seldom (to use an expression of Ideler's) ought medical reports to resemble those Italian churches where every bandit finds a safe asylum; but in such cases medicine must assert her rights, and never ought she, when opposed to popular opinion and prevailing ideas, which rest on no surer ground than an imperfect acquaintance with mental disease, to throw down the arms which science has put into her hands. But neither, on the other hand, should she, when unable to give a determinate opinion on scientific grounds, seek to establish one on any other basis.

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[1] See Ideler's notes to the fourth and ninth sections of Marc's work.

A perfectly distinct group of cases, which in a medico-legal point of view it is extremely difficult to classify, is that which consists of those who kill their own children. Many of those individuals are drunkards, or persons demoralized by other causes, and consequently often attacked with insanity. Usually they declare that they kill their children to deliver them from the miseries of this world; a motive which, in many cases, is not in itself so wholly unreasonable. Often, after having committed a murder, these persons make an attempt to commit suicide—or rather they intend to do so, but are too faint-hearted to carry it out. In a good number of cases the act partakes really of the character of self-mutilation, and as it were of suicide, through the murder of another; as when the unfortunate father who tenderly loves his child seeks, in killing him, to slay himself.

The pyschological problems in these cases (we shall return to them again in another place) are usually but little cleared up by any declarations which the individuals themselves may make, who in general belong to the uneducated class, and can give no account whatever of their state of mind. In legal medicine, we ought to adhere most strictly to the course of events, to the remarkable changes which may have taken place anteriorly in the moral individuality of the person; to inquire if he has ever been subject to hallucinations, and into his condition both before and after the act. In the case to which we have referred above (Seitz, § 41) this most incredible fact came out, viz., that the individual, after having slain his three children, washed his hands, threw himself upon the grass, and went to sleep for two hours. He was perfectly incapable of experiencing the least remorse for his conduct. Hence we must come to the conclusion that in such cases the acts of the individual are, at least, of as much importance as his words in helping us to arrive at a just appreciation of his mental condition.

Another class of cases consists of those where the individual commits crimes in order to die upon the scaffold. They prefer that mode of death to suicide, because they have not the courage to kill themselves, or because they consider that suicide is too gross a sin, and that they could not confess before death, etc. There is scarcely one of those individuals in this class whom we could consider as in the full enjoyment of reason. M. Brierre de Boismont has brought together six cases of this description ('Ann. Méd. Psych.,' 1851, iii., p. 626).

§ 129. Closely related to those impulses which have just been examined, stand those morbid inclinations which we see also discovered by melancholics, which impel them to the destruction of inanimate objects, and which may be directed against anything or everything that surrounds the patient. Thus, there are some who have a constant desire to tear their clothes and beds, to make *charpie* of them, etc. Most interesting, however, are those cases in which the deed consists of fire-raising, which has been erected into a special monomania, and described under the name of Pyromania—a classification purely artificial, but which possesses at least the advantage of previously settling the object of discussion.[1]

If from the observations which have been published upon this subject we exclude all those cases where egotistical motives[2] have evidently guided the hand of the incendiary, there still remains a certain number in which this crime of arson has been committed by patients laboring under a well-marked melancholia (particularly of nostalgia passing into mania)—a state which is often accompanied by important derangements in the general health, and frequently in the sexual organs. The morbid impulse develops itself precisely in the same manner as does the homicidal impulse which we have just been studying. The feeling of mental anxiety and the general disturbance which arises from the morbid condition of the faculties do not, as has been said (Masius), impel the individual to seek to stifle this anxiety by the sight of a great flame, but merely to relieve by an outward act, however negative and destructive in character, the profound discord and uneasiness which rules within, and thereby to obtain peace and tranquillity. The particular direction which this morbid impulse takes, viz., incendiarism, may arise from the fact that to those persons in whom this tendency has been most accurately observed—namely, young people, particularly young maid-servants—fire, with which they in the performance of their duties have much to do, is always ready at hand, and presents itself as the readiest means by which they can satisfy the morbid craving which torments them—a means which is easily employed; and which requires neither great energy of action nor violent determination to make use of.

Away, then, with the term Pyromania, and let there be a careful investigation in every case into the individual psychological peculiarities which lie at the bottom and give rise to this impulse. The grand question *in foro*, in all such cases, must ever be to ascertain whether there existed a state of disease which limited, or could have limited, the liberty of the individual. Sometimes the symptoms of undoubted mental disease can be clearly distinguished—a dominant feeling of anxiety, hallucinations, states of hysterical exaltation; in other cases, the actual existence of a nervous disease (epilepsy or chorea) renders probable the assumption that the accused has been subject to some passing mental aberration. We should not forget that usually very little is wanted to interfere with the liberty of action in such persons (§ 26): they are, for the most part, young, childish, or half-childish, often morally and intellectually weak, silly, and capricious individuals. The incendiary act often appears to be utterly without any motive,—the feeble *ego* having opposed no resistance to the thought of the deed which suddenly sprang up.

Of course, there are also cases where the insane set fire to buildings under the impulse of motives very different. Jonathan Martin, who burned the Cathedral of York, was not a melancholic, but was evidently laboring under chronic partial dementia, and it was in consequence of his hallucinations that he sought "to purge the house of the Lord of the unworthy priests" who dwelt in it. To include this case under the title of "Pyromania" (*e. g.*, Pinel, 'Path. Cérébr.,' p. 328) is the necessary but evil result of a superficial classification.

EXAMPLE XXX.—*Melancholia with a quiet destructive impulse.*—Marie Z—, aged about 30 years, of an eccentric character, became mentally affected after the occurrence of some family annoyances. She believed herself lost, and condemned to the punishments of hell. After having attempted to commit suicide, she came into our asylum with a blue mark in the neck, and bearing the traces of the cord with which she had sought to strangle herself. After her admission, she abandoned herself to the utmost despair; from morning till night she remained seated upon her bed, her head concealed in her hands, and replied to questions only in monosyllables. Sometimes she discoursed at length upon the frightful punishment which was awaiting her. One day she begged for a pair of scissors, and deliberately proceeded to riddle a mattress and her hood with a mass of llitte holes, and this without the slightest trace of bitterness or anger; and she told me very naïvely that she was urged to do so by an irresistible impulse. She completely recovered at the end of two years. (Guislain, 'Phrénopathies.')

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[1] See the copious German literature on this subject by Osiander, Henke, Meckel, Masius, Flemming, Mayer, Hettich, etc., and recently Willers-Jessen.

[2] Sometimes revenge, sometimes boyish delight in mischief—sometimes, and indeed most frequently, the opinion that by destroying the house they might put an end to an impatiently borne period of service and return home.

SECTION V.—*Melancholia with Persistent Excitement of the Will.*

In the last two sections we have studied those conditions in which the morbid state of the faculties manifests itself by a tendency to destruction. Now, the more the motive power of the soul is excited by mental pain, and the more general extended and persistent the manner in which this is done, and the more vague and permanent the excitement, the less are we inclined to regard this condition as one of melancholia, and the nearer does it approach to the form of mania. It is useless and impossible to describe here all those intermediate forms through which this transition from melancholia passes into maniacal excitement; we shall exhibit in the following section the most pronounced form of this state.

But it is of importance to know that there are certain conditions in which the negative disposition of the faculties and permanent excitement of the will are kept within moderate bounds, and present a very chronic course; conditions which exhibit themselves rather in an habitual eccentricity of character, and which are nearly allied to those of slight and chronic melancholia, to which we have already referred, and of which they represent the active form. Some of these cases are described by authors as cases of mental insanity, *mania sine delirio, folie raisonnante,* moral insanity (Prichard). These conditions are congenital or acquired; they are characterized by a feeling of discontent and bitterness, which is either constant or roused on the slightest provocation; by a perpetual negative demeanor towards the external world, the impressions of which always are, or very easily become, painful in their nature; and by a constant reaction of the will, in the sense of the contrary choleric disposition. Generally this condition is not recognized as a morbid one, or it is only after a long time that we come to look upon these individuals as actually invalids. They well know how to justify by logical arguments their wayward and unreasonable behavior, and how to dissimulate until there arrives a moment when this state suddenly passes into an access of mania, which serves to tear the veil from the eyes of their friends and reveal them in their true character.

EXAMPLE XXXI.—*Habitual perversion of the feelings, with impulsive fits of anger, without any derangement of the intellect.*—An only son, brought up under the eyes of a weak and indulgent mother, early acquired the habit of yielding to all his caprices, and to all the impulses of a restless and ardent temperament. With years the impetuosity of his desires only augmented, and the fortune which was lavishly supplied at his request seemed to level every obstacle which stood in the way of his supreme will. If he met with any serious difficulty, he became exasperated and much enraged; he attacked with boldness, and sought to rule everything by force, and was perpetually quarrelling and fighting. If he was angry with any beast—a dog, a sheep, or a horse, it mattered not which—he immediately made an end of it. When in company, or a guest at any fête, he usually got into a rage and then fell to fighting. On the other hand, full of reason when he was quiet, and master of a large estate, he conducted his affairs with the greatest good sense and uprightness, fulfilled his duties to society, and made himself known by his liberality to the poor. Hitherto his unfortunate propensity for getting into quarrels had only brought him bruises, actions at law, and pecuniary fines; but one notorious case put an end to his acts of violence, for one day he got into a rage at a woman who was abusing him, and threw her into a spring. The affair came before the court, and on the testimony of a crowd of witnesses, who deposed to the intemperateness of his fits of anger, he was sentenced to be confined in the asylum of Bicêtre. (Pinel, 'Traité de l'Aliénation,' p. 159.)

CHAPTER II.

STATES OF MENTAL EXALTATION.

Mania.

§ 130. WHILE the pure and simple forms of melancholia represent conditions of depression of the self-sensation and self-confidence, of concentration upon some painful emotion, of *morbid self-concentration*, and, in the highest degrees, of even incapacity for making the slightest exertion, we have seen that, in the forms last considered, the emotional disposition is always more and more accompanied by morbid impulses to manifestations of volition. The possibility of exhibiting the emotion by actions, and of thereby obtaining relief, shows that the affective sphere of the mind and the will have become more free; indeed, the stronger and more persistent these impulses are, and the more extended and independent this aspiration to freedom becomes, the more there result states of *persistent excitement and exaltation of will*, with which also there is easily united *an increase of the self-sensation and of self-confidence.* Such conditions, which have been appropriately designated (Jessen), in opposition to melancholia, morbid states in which the patients are *out of themselves*, are comprised under the name of mania; and under this head there are included two different forms, which, while they are intimately connected with each other, and not unfrequently pass into each other, occur still more frequently as states or forms fragmentarily mixed together, viz. *mania* and *monomania* (sensu strictiori).

The fundamental affection in the maniacal states consists chiefly in a derangement of the motory side of the soul-life, the effort, and of such a nature, that the latter having become free, unrestrained, and considerably increased, the individual consequently feels impelled to give some outward manifestation of his powers. From this tendency to an exaggerated psychical movement from within outwards, from this augmented energy and more extended range of the efforts, from this extravagance of the will, which constitute the centre-point of maniacal derangement, spring, as from a common source, those two forms which in their nature and mode of manifestation are sometimes so essentially distinct. On the one hand, this necessity for the manifestation of the increased mental activity may manifest itself *directly*, being propagated by a continuous impulse to the organs of motion, and there exploding, as it were; whence there ensues a state of great physical restlessness, the patient keeping his muscles in constant play (speech, gestures, movements of the body generally), and perpetually speaking, shouting, weeping, dancing, leaping, storming, etc.; and thus is constituted the form generally called mania.

Or, on the other hand, the direct result of this more free development of volition may be the development of inordinate vanity, increased self-sensation, and consequently a constant over-estimation of self; and as attempts at explanation of this disposition, delirious conceptions arise which now become dominant over the mind, and take the increased activity of the will into their service. The patient has now no longer to do with mere general manifestation of energy; but this excitation of the motory side of the soul-life is transformed into *extravagant volition in the form of particular delirious conceptions*, for the most part with much greater outward calm. As soon as such a condition, accompanied by delirious conceptions arising from inordinate self-conceit, has in any degree become fixed, there is founded a state of mental derangement infinitely more serious than that of simple mania. In short, while in the latter form the patient is freed from his exaggerated impulses by their outward manifestation, and again, as we shall soon show in the pure form of mania, the whole disease is confined to a relatively external sphere of the mental life without profoundly involving the individuality, it is the essential characteristic of this second form of mania, which we designate *monomania*, that delirious conceptions, false ideas, which arise from over-estimation of self, and therefore relate only to the special self of the patient, appear, which immediately involve the *ego* itself, and therefore the innermost part of the individuality becomes alienated and falsified.

§ 131. But if these two forms in their extreme degrees are so utterly distinct as mutually to exclude the possibility of mistaking the one for the other, still observation shows that in mania itself such delirious ideas of self-importance are by no means unfrequent, which certainly ought not to be regarded in an ontological sense as "fragments of monomania," as phenomena of quite another affection which in this case present themselves in a very simple form, but as the result of the primary mental condition. Thus it is self-evident that, in the direct evolution of the morbid impulse of will in muscular movements, this arrogant disposition must very frequently give rise to this condition of overweening self-estimation, and consequently how readily the patient may come to acquire delirious conceptions; and one can see any day in watching maniacs how sometimes such grand ideas are barely visible, while in others they are developed with the greatest clearness. Fortunately, however, there exists in these most advanced cases of mania a something which prevents these ideas from becoming fixed. They share in the tumult and precipitancy which agitate the motory sphere of the soul-life; they become so confused in their hurry, and pursue each other so rapidly, that they have no time to become fixed or to dwell in the mind. On the other hand, where this rapid succession of ideas does not exist, and where this state of exaltation and these delirious conceptions penetrate the *ego* so deeply and in such a manner as actually to form an essential and constituent part of it, and to become not only a subjective reality to the patient, but the ruling principle of his whole psychical life, this state is called monomania.

The distinction between mania and monomania, as we have observed it in the most marked and characteristic cases, consists chiefly in the different direction which the original lesion takes, in the different manner in which the intellect is morbidly changed, and the way in which the *ego* is affected. In mania, the exaggerated impulse of the will immediately passes outwards as a tendency to muscular movement; in monomania it is simply an internal eccentricity of will, whereby the internal feeling of greater liberty of action is transformed by a reactionary process into exalted false ideas, and where this feeling, when it manifests itself, is no longer confined to simple movements and relief through these movements, but tends rather towards the realization of certain plans which proceed from those false ideas. This error in the ideas consists in fixed delirious conceptions in regard to the special individuality springing from this over-estimation of self; while in mania, the derangement of the intellect consists chiefly in a delirious confusion of ideas in consequence of the precipitous haste with which all the mental processes are conducted.

Finally, we shall have to consider a third state of mental exaltation, more apparent than real, which is never found except in monomania, and which consists in this—that the anomaly of the psychical self-sensation, this overweening disposition which has originally given origin to all those false conceptions by which the patient seeks to explain his state, disappears more or less completely; but the false conceptions themselves, the exalted ideas which the individual entertains of his own merits, let loose from the foundation on which they were erected, persist, and as constantly present errors of judgment, completely govern the whole intellectual life of the patient. We shall describe this third condition under the title of *Partial Dementia with Exaltation,* in the third section of this book.

In mania, as in melancholia, there exists an important difference between the cases, in regard to whether the patients are in a simply superficial or in a profound dreamy state, whether their relations with the outer world are clear, or are hazy, confused, and obscure. Upon this depends in great part the degree of recollection of their state which the patients possess after their recovery.

§ 132. We have more than once had occasion to remark that, in the majority of cases, melancholic states precede the maniacal, and that the latter is engendered by the former. In the more chronic cases we often have the opportunity of following the whole course of the disease, and of seeing in melancholics the mental suffering and anxiety increase from day to day, at first manifesting itself merely by extreme restlessness, but gradually passing into complete mania. In such cases it is undoubtedly the state of mental suffering which induces this convulsive condition—a phenomenon which may appropriately enough be compared on the one hand to those convulsions which are brought on by some particularly severe bodily suffering, and at other times to those involuntary muscular contractions which take place as a sort of instinctive reaction against any acute pain (as setting the teeth, clenching the fist, etc.).

We are not to suppose that, therefore, the nature of mania consists merely in the unregulated and uncurbed manifestation of the negative disposition found in melancholia. For, though often enough this disposition breaks through all barriers, and displays itself in certain acts of convulsive fury or of destruction—conditions which we have already described under the title of *raptus melancholicus;* and although, often enough, during the whole course of the maniacal affection, the melancholia appears behind it as a shady background, and there are even times when it advances to the foreground and may again become dominant; still the mania, when once the motory exaltation has been set free, however short the fit may be, becomes entirely independent of the preceding melancholia, and bursts forth without the necessity of being excited anew by melancholic emotions: indeed, the disposition frequently undergoes a total change, the patient becoming joyful, merry, and overforward.

At the same time, those deeds of destruction, the savage attempts and ferocious acts committed by maniacs, are far from being always due to a true negative disposition of mind, or to even a momentary hostile intention; much more frequently the acts of these patients are the result of a blind impulse to action, of a necessity to change the external world according to their will. In acts of destruction this desire finds its simplest fulfilment, because this is so much easier than to create anything—*for this demands* a certain amount of reflection and of care, of which maniacs are wholly incapable. The desire longs to be promptly satisfied, and convulsively hastens, so to speak, to manifest itself without heeding the more slow influence of more orderly thoughts: as he must give vent to his desire in a visible manner, he proceeds at once to the work of demolition; and that which we might be inclined to regard as the object of the deed, is, in fact, merely the termination of his activity. We see something analogous to this in the child who destroys his toy in the endeavor to satisfy that necessity that he discovers of making it to suit his idea, or in schoolboys who wrestle with each other in order to satisfy the longing they experience to exhibit their strength. In the same way, maniacs often demolish and destroy things amidst shouts of laughter and in the greatest good-humor. But there exists a complete and marked difference between the actions in mania and the deeds of the melancholic in the form of monomania, an affection which in its internal causes is so closely connected to mania. The monomaniac more frequently desires actually to create something, and, indeed, to execute some prodigious work, and to bring it to the light of day; and he may even bring to bear upon this some amount of reflection, because, in his case, the mental processes do not proceed with the haste, restlessness, and confusion present in mania: but there is time afforded for the impulse which the patient feels to expend his force, to be governed by some fixed great and regulated, but naturally false idea, according to which he is impelled to work.

When mania, particularly that form accompanied with furious delirium, has proceeded out of melancholia in the manner we have already indicated, we never dream of attributing to the person so affected any premeditated mental act; in fact, it is out of the question to think of looking for any psychological progress regulated by the faculties in an individual laboring under such an affection. That mental act which he apparently performs is rather a modification or change in his morbid disposition, which goes on without any intervention on his part, and is explicable on the ground that some change has taken place in the nature and form of his cerebral affection. So long as this process is confined to a simple change of disposition, the lesion is limited to a sphere relatively exterior or peripheral to the mental faculties, and frequently the patient has then a consciousness of his condition, of that mental anomaly which weighs upon him, which oppresses the *ego*, which seems to exact something of him, and which he cannot resist; and with this consciousness he, at the same time, protests against the imminence of the disease.

When mania does break out, it is by no means always determined by a passionate or emotional (melancholic) shock. Apart from those cases of mania caused by acute meningitis, we see in other forms of delirium—as, for example, of typhus fever—the same outward restlessness, the voluntary acts and impulsive movements, the result at one time of the profound anxiety which torments the patient, or at another provoked by hallucinations, while again they may come on without any appreciable cause, as if this motory impulse commenced spontaneously to show itself with the more profound destruction of the mental faculties.

A similar state of matters prevails in certain cases of chronic mania. For observation has distinctly shown than when the brain has once been the seat of a lesion partaking of the nature of mental pain, there remains a condition in the highest degree predisposing to mania. Mania succeeds melancholia—such is the rule; there are cases even where long after recovery from melancholia a second attack of insanity has come on, but this time assuming the form of mania.[1]

SECTION I.—*Mania.*

§ 133. As we have already remarked, it is rare that mania shows itself without having been preceded by certain symptoms of some other mental affection. In the majority of cases, for some time previous, the desires, the feelings, and habits of the patient have become entirely changed and generally a tone of melancholy seems to pervade them. This antecedent *stadium melancholium*, which may be of a very gentle and transient nature, is what has been termed the period of incubation of mania. The melancholic gradually becomes very restless, nothing pleases him; he is perpetually wandering about; he strays amongst the fields, or makes excursions to see friends and relatives, frequently to far-distant places, with the vague expectation of obtaining relief. He gives evidence of his distressing delirium, when such exists, by talking in a loud voice, and by his loquaciousness; his voice is stronger on such occasions than usual, and he is generally more active. In particular, his appetite is actually voracious; he frequently complains of disagreeable sensations in the epigastric region, of a feeling of oppression which extremely annoys and torments him. Persons who have once had an attack of mania frequently themselves say that they are going to have a relapse, and beg that they may be watched and removed from their usual neighborhood. Frequently such persons exhibit a great desire for spirituous liquors; and as they yield to the desire usually in an immoderate degree, it seems as if they would by the alcoholic stimulus perpetuate and increase their state of excitement, which unfortunately they too often succeed in doing. With the increased muscular activity and impulse to exhibit it in actions, new ideas and new sensations arise, which at first plunge the patient into a state of astonishment and fear, but speedily end by gaining the complete mastery. At the commencement he could conceal this state of mind, but soon these new ideas and sensations slip out and display themselves in words and deeds.

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[1] As, for example, the ninth case of Jacobi ('Hauptformen,' etc.). Zeller and myself have observed similar cases.

Simultaneously with these psychical symptoms, there are usually present in this first stage certain signs of derangement of the digestive functions, of the circulation, and of nutrition. At first, there is a feeling of illness, great prostration; pain in the head, teeth, and abdomen; sleeplessness, agitating dreams, hallucinations of the senses, vertigo; redness, or, on the contrary, paleness of the countenance, emaciation, and a yellowish tint of the skin; enormous appetite, foul tongue, and constipation; palpitation, frequent pulse, and a generally febrile state; suppression of the menses, and, not unfrequently, exaggeration of the sexual desires. The form of the visage becomes changed; there is often slight general trembling of the whole body; the sensation of heat and cold, and of bodily pain, is weakened. When the mania is fully pronounced, the feeling of illness disappears, and the patient expresses himself as quite well.

We shall now proceed to examine more minutely this form of insanity in its fully developed state; but before proceeding we must remark in passing, that in consequence of the multiplicity and infinite variety of symptoms of this form of mental disease, it will be necessary to divide them into groups of phenomena, which, of course, will not all be found in each individual case.

134. 1. *Anomalies of the disposition, of the desires, and of the will.*—The fundamental disorder in mania, the irritation upon the motory side of the soul-life, exhibits itself, first of all, in this sphere, as a high degree of mental excitement, with restless, impetuous, and violent desires and actions. The desire for ceaseless action and movement, the necessity of immediately exhibiting in action all that passes within the mind, impels him sometimes merely to harmless movements, as in dancing, speaking, *singing, shrieking*, laughing, weeping, etc.; sometimes to restless, ob-

jectless employment, which would attempt, according to the caprice of the moment, suddenly and impatiently to alter everything around, sometimes to destroy everything animate or inanimate—a tendency which may increase to outbreaks of the blindest fury and rage. But while this violent and unbridled impulse attacks all objects, rushes against every impediment, and, totally regardless of consequences, shows itself in eccentric and aimless actions, we nevertheless find in many of these patients a certain cowardice when they are energetically and decidedly resisted, or, more correctly, a state of anxiety still remaining from the primary period of the disease, and which appears not only to have originated the mania, but also to maintain it. In such individuals we can discover no reasonable act, no deed deduced from any rational train of thought, no care either for their own or their family's existence, no possibility of being guided by any rational principle; indifference towards all which does not directly touch upon the point on which they are peculiarly sensitive; entire want of interest in anything going on around; loss of all sense of decency, modesty, and propriety.

The concrete mental acts which show themselves with such violence consist either simply in certain rapidly changing dispositions, or in certain sentiments which have become fixed, and obscure groups of ideas which manifest themselves in some particular determinate impulse. Thus it is, that in consequence of a morbid exaggeration of the sexual sensations, frequently arising from local cause, as pruritus pudendi or ovarian disease, we see women exhibiting a morbid lasciviousness which they display in the most shameless manner, and seek to gratify by the most brutal means. The desire of possession may show itself as a persistent propensity to collect and accumulate everything, or as a morbid propensity to steal. The pleasure in loud speaking, in the rhythmical form of conversation, in noise-making, in spirituous drinks, in satisfying their appetite, in shedding blood, etc., may show itself in those violent and boisterous ways, and there result fixed or transitory conditions which, according to the predominance of this or that particular desire, are known under the name of nymphomania, kleptomania, logomania, poiematamania, dipsomania, edodomania, homicidal mania, etc.

Quite as various are the general anomalies of the self-sensation, the morbid dispositions which show themselves in the exalted actions of the patient. At times they exhibit a sorrowful, anxious, sour, angry, defiant or savage disposition; they discover a great pleasure in damaging things and doing mischief, and are exacting, evil-disposed, and malicious. Sometimes, again, their disposition is—and this is quite as common as the foregoing—cheerful, gay, merry, and frivolous; the morbid notion which they have of their own self-importance displays itself in a boundless hilarity, in a feeling of liberty and good fortune; they experience a general contentment with everything, and are disposed to be on good terms with mankind at large.

These different dispositions, excitement and prostration, overflowing contentment and the utter want of it, alternate frequently: it is very common to see maniacs pass suddenly and without any apparent cause from joy to sorrow, from defiance to shrinking cowardice, from indifference in violent reaction to furious rage, from greedy covetousness to contentment, from anxiety to blind confidence and temerity; and but rarely does an external moral excitement succeed in producing, even for but a short time, the slightest degree of calm and repose in this state of perpetually changing versatility.

Sometimes, particularly at the commencement of the disease, the patient himself complains of this necessity to commit violent deeds, and it may be possible in such a case, by reasoning with him, or by some strong mental impression, temporarily to restrain him, and to bring him again to a momentary state of reason; in other cases it seems as if the patient, in a state of semi-consciousness of his condition, gave himself up to the exaltation when it has once begun, and gave the reins to the thoughts which beset him; it seems as if he wished, when his will has thus got loose and is no longer restrained, to revenge himself for that painful restraint to which he has been subjected during the melancholic stadium of his disease.

Jacobi has very properly called our attention to the wholly impulsive or instinctive character of the maniac's acts. That which determines these is no true act of volition—that is, the transformation of a dominant idea into action, with a certain consciousness of the object to be attained, and of the means necessary to bring it about—and as little is it a state of profound passion which stirs the patient into action; but the ever-running, noisy wheel of unrestrained mental movement busies itself merely with the sensations, the vague oscillations of thought to which men have given the name of feelings, the superficial emotions, the numberless momentary and accidental sensual excitements—these it is which alone have any influence upon him, and to which he seeks to give expression. At first the patient may be able to control this internal tumult, and, what is sufficiently remarkable, we may see individuals who, when chided for their impropriety of behavior, calmly reply, not without a certain air of irony, that everything is allowed to them since they are fools. The furious delirium of the maniac approaches in form to the passion of anger, but it does not spring from the same motives regarded from a moral point of view; it is not the result of impressions made upon the mind of ideas, of thoughts; it may spring up quite spontaneously, or, on the other hand, it may be determined by impressions accidentally produced upon the organs of sense, as by the light of the moon penetrating into a room through a window—by a noise, a color, the sight of a person or thing which has no earthly connection with the patient: any of these may be sufficient to provoke it.

Scarcely is it necessary to remark here, that because an individual displays certain desires or dispositions during the course of his mania, we are warranted in concluding that he may exhibit in his normal states similar propensities or mental dispositions. For although we may sometimes see certain moral peculiarities which the individual habitually presents in health reproduced in his manner of conducting himself and in his actions during his disease (*e. g.*, eccentricity, capriciousness, etc.), yet certain it is that the character becomes entirely changed: the joyous man becomes gloomy, the serious man gay, the virtuous man obscene, the sober man a drunkard, etc. Sometimes, it is true, certain propensities display themselves for the first time, the very existence of which we had not even before suspected, and of which we believed him totally ignorant; as, for example, when an apparently modest girl utters obscene language which she could not possibly have learnt for the first time during her insanity.

There are less intense cases of mania, when the patient, displaying certain propensities, gives himself up to them in a manner wholly regardless of propriety, but which still present very transient derangement of the intellect, where one is almost inclined to believe that the patient voluntarily indulges his evil desires (kleptomania, nymphomania, dipsomania). However, what shows that this is truly a morbid affection, is the involuntary nature of these acts; the patient often complains that he cannot resist the desire; and further, these acts have something instinctive in the manner in which they show themselves: they come on in fits with lucid intervals, they are frequently accompanied by other symptoms of derangement of the general health, and they frequently come on after a preceding stage of depression. Often enough, too, this state passes rapidly into one of complete and unequivocal mania.

§ 135. 2. *Anomalies of the intellect.*—The first and most important change which the intellect undergoes in mania, consists in irritability and quantitative exaltation analogous to that of the disposition and the will—in a more rapid flow of ideas. In its most moderate degrees this relation appears as an exaggeration of the normal faculty of thought. The increased development and rapid succession of ideas call forth a crowd of long-forgotten remembrances in new and vivid forms—there is an exaltation of memory which, in some cases, presents the peculiarity that the maniac is able, during the disease, to recite correctly long pieces of poetry, which, before he was affected, and after his recovery, he was incapable of doing. At times, also, they give utterance to thoughts, combinations of ideas and opinions, to which in a state of health they never could lay claim; frequently, according to the humor of the moment, or stimulated by external circumstances, they draw curious comparisons,[1] exhibit a spirit of the most biting sarcasm, express themselves with extraordinary eloquence, and hazard, with great assurance, the most daring opinions formed from an acute observation of the relative circumstances.

Such occurs, however, in only the minority of cases. Generally, from the commencement, or at least very soon, the quantitative increase and exaltation of thought are so great, that there results a restless and constant succession of isolated ideas which have no intimate relation with each other, being merely connected by accidental external incidents, and as they pass through the consciousness with great rapidity, and constantly change their combinations, are very transitory and superficial, or of a very fragmentary character. These ideas, which, owing to the extreme rapidity with which they succeed each other, are very imperfectly developed, bear the impress of the emotion which at the time governs the patient, and are sometimes lively, supercilious, and extravagant; at others, gloomy and menacing. They are in part provoked and their contents determined by the impressions which the patient receives through the senses; and these impressions themselves are often falsified by hallucinations and illusions, or, as in many cases of delirium, imperfectly and erroneously perceived, owing to the impression being only partly received and considered. On the other hand, there is presented to the perception, from the inward, and in details incomprehensible, instinctive action of the association of ideas, a countless number of images, words, figures, phrases, which are often isolated and disconnected, often incessantly and separately repeated in cries or singing, or at times collected together into sentences, phrases, and speeches which the patient utters with the expression of the emotion dominant at the time. In certain cases, the musical element of speech appears as a tendency to rhythmical expressions, to assonance and rhyme: the patient then speaks always in verses,[2] which, indeed, contain very little poetry, being merely made up of similarly sounding sentences and words. This has been termed "*rhyming delirium.*"

The principal modification or anomaly of the intelligence in confirmed mania is, then, an *incoherence* of ideas which is the inevitable consequence of the precipitation with which all the psychical phenomena are executed, of the impossibility of the complete development of any single perception, of the rapid emotional changes, and of the fantastic forms in which their imagination clothes the impressions derived from the organs of sense. Fixed or persistent delirious conceptions are not proper to this condition, neither are they the result of a passionate imagination which the patient, while yet in good health, may have exhibited; although often enough they may seem to warrant us in coming to this conclusion; as, for example, when a maniac often manifests traces of former mental impressions, we may be led to believe that he is incessantly occupied with certain mental causes which have led to his insanity. Here, also, the possibility of a rapid change in the ideas, and the superficial character of the entire alienation show that we have not to do with persistent dominant ideas, such as are peculiar to states of profound emotion.

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[1] We have, for example, observed a patient who could strikingly delineate any slight resemblance to animals in the physiognomies of those around him.

[2] Two examples of this :

"Und es ist des Himmels Pflicht,
Dass man Gott ins Herze sicht.

So komm in den Garten.
Ei lass mich nicht warten.
Der Wein schmeckt mir bitter.
Schon naht des Gewitter," etc.

Bergmann, 'Nasse's Zeitschr.,' 1823, ii., p. 419 ; Jacobi, 'Hauptformen,' p. 540.

But this is not to say that *temporary* delirious conceptions and false ideas cannot be present in mania. On the contrary, they are very frequent. Sometimes they consist in series of false opinions regarding the external world, such as must necessarily result from the confused ideas which, half developed, urge themselves into consciousness, and, in their rapid course, often resemble fragments of abandoned ideas and false sensorial impressions. Sometimes, however, delirious conceptions are present which have a much more important signification: here, also, they have again essentially the significance of attempts at explanation of the morbid disposition, and therefore relate only to the special *ego*. A haughty, audacious, cheerful, gay, elevated frame of mind—the feeling of freedom of action and exuberance of thought—call forth, according to the law of causality, ideas of greatness, possession, riches, great moral or intellectual power, etc., to which under such circumstances alone there is given a like freedom of thought and volition. The exaggerated idea of freedom and power must, however, have a foundation; there must be something in the *ego* which corresponds to it; the *ego* must for the moment become another; and this change can only be expressed by an image, which any momentary thought may create. The patient may call himself Napoleon, the Messiah, God; in short any great person. He may believe that he is intimately acquainted with all the sciences, or offer to those around him all the treasures of the world. He may also select characters which are quite nonsensical: for example, he may say in the same breath, "I am Napoleon," "I am this chair," "I am you," etc. In such a case, he either feels that he cannot fully express that which he actually desires to do, and tries to make up for this by an accumulation of images; or he attempts thus vaguely to establish a great omnipresence, to show that he is in everything, which, indeed, is in accordance with his exalted frame of mind.

But—and this distinguishes these incoherently combined desultory delirious ideas from those of the following form (monomania)—none of those remain fixed. Every temporary excitation brings with it new images and ideas which dispel the old; the disposition itself is changeable; and as each frame of mind passes off, no explanation is necessary—the delirious conceptions have no time to develop and fix themselves by attracting other similar ideas. The patient, it is true, frequently gives expression to these ideas in a loud and noisy way, but never in a tone of deep *conviction;* indeed, he may even laugh at them. Those cases present a certain relation to children playing a comedy: they enter entirely into the spirit of the play, and actually at the moment consider themselves heroes, but at the same time know that they are not seriously considered such by the spectators.

It is worthy of special consideration, that in many cases of mania, the intellect—exclusive of the disorders we have just mentioned—seems to be very slightly involved, and that no actual weakness or diminution of it is apparent. Frequently, in spite of great incoherence of ideas, the remembrance of the past is not only perfectly true, but in many cases all that happened during the period of the disease is even well remembered. Not unfrequently, the patient may, by an appeal to his recollection, be for the moment withdrawn from the whirl of ideas, and enabled to answer questions concerning his former life correctly, and even to narrate bygone incidents. Frequently, he understands so well all that passes around him, and has so much control over himself, that a friendly word, a threat, or a joke, or even an appearance of confidence in him, may cause him to become calm for the moment. The perversions of the judgment, when they do not actually consist of the forementioned attempts at explanation of the disposition, depend merely upon suppression, as if from want of time sufficiently to connect the transient, fleeting, incoherent ideas; sometimes, also, from the predominance of certain series of perceptions which appear to the patient as definite facts. Thus mania, viewed in the double light of a morbid anomaly of the perception and of the will, presents the same general character of an affection of the mind more superficial than profound; and this is demonstrated, above all, by the possibility of the sudden appearance of a lucid interval, and even of rapid and complete recovery after the disease has lasted for years—of recovery in which the patient, although his mind is much fatigued, may still be in the complete possession of the former range of his intelligence, and in every way the same mentally as he was before. Frequently, also, he can give an exact account of his state during the disease; and we frequently hear such individuals give vent to expressions like the following statement made by a patient of Jacobi's: "It is actually terrible when the thoughts so run into one another in one's head."

§ 136. 3. *Anomalies of sensorial function and of movement.*—Hallucinations of sight, of hearing, of smell, and of cutaneous sensibility, are sometimes observed in mania, and not unfrequently they cause aggravation of the symptoms. Generally, however, they are of but little importance; they also speedily disappear in the giddy haste of the mental processes, and the patient cannot give them any prolonged attention. Illusions of the senses, false interpretations of sensorial perceptions, are much more frequent: the patient, for example, takes a stranger for an old acquaintance, or when he hears any noise thinks that some one is calling to him. False judgments in this case, as in the delirium of fever, ordinarily depend upon non-consideration of certain parts of the sensorial impressions, and paying great attention to others, and upon superficial similarities.

There is also sometimes observed an exaggerated sensibility to impressions of sight and of hearing. Sometimes, also, there is dilatation or contraction of the pupils.

As to the *organs of movement,* there generally exists in mania a continual impulse to contractions of many muscles. The movements of the body, and especially those of the organs of speech, participate in the state of psychical exaltation. They are active, rapid, energetic, inasmuch as the speech, cries, gesticulations, and actions of the patient all tend to outward manifestation; his countenance and expression are lively, intense, and peculiar. Much has been said of the extraordinary strength, of the actual increase of muscular power in mania (Esquirol, Pinel, Ideler, etc.). In the vast majority of cases there is no such increase of strength; the patient, so far from being stronger than in health, can be easily mastered by a single attendant, and the appearance of increased bodily power generally arises merely from the regardlessness with which the patient executes muscular movements during the maniacal attack. On the other hand, it is correct and very remarkable that the patients can continue, often *for a very long time*, to make use of their muscular power, and to an extent which far surpasses their capability during health. Such individuals frequently pass whole weeks, and even months, almost without sleep, a prey to the most violent fury; and the possibility of such enormous muscular exertion appears only explicable by the assumption that, owing to an abnormal state of the muscular sensibility, the patient has *no feeling of fatigue*. We see, in fact, maniacs in whom the nutrition is very much lowered, thinking and declaring that they are very strong, and believing themselves capable of any fatigue, while at the same time the great emaciation, and the exhaustion which succeeds the attack, unmistakably demonstrate that the organism cannot bear those exertions with impunity.

Sometimes, also, actual convulsions are observed in the organs of movement—grinding of the teeth, twitches of the countenance, or more extended convulsions, the latter occurring sometimes during waking, sometimes during transitory fainting-fits and ecstatic states. Partial paralyses are much more rare in mania; on the other hand, very frequently the first commencement of general paralysis shows itself during a moderate attack of mania by the uncertain movements of the tongue.

Amongst the other symptoms of mania, *troubled sleep* is very common—in many cases persistent complete sleeplessness. Again, too much ought not to be expected from a calm sleep during the course of the disease, as the most violent exacerbations occasionally ensue after the quietest nights, and, on the other hand, even convalescents frequently continue for a long time to complain of sleeplessness.

Anomalies of sensation of the most various forms may present themselves in mania—headache, vertigo, heat, aura-like sensations arising from the chest, abnormal cutaneous sensations, pains in the limbs real or apparent (owing to indifference), insensibility to heat or cold; actual anæsthesia is much less frequent than was formerly supposed (§ 50).

In many cases there is observed an enormous *increase of the appetite*; and this is frequently directed to uneatable and indigestible things. Absence of the feeling of satiety appears to be the cause of this voracity, as it is in no way regulated by the degree of expenditure of muscular force. Not unfrequently, however, the demand for nutriment is not at all heeded, the patient quite neglecting to eat. That desire to eat their own excrements, which sometimes exists, seems to indicate profound perversity of taste and complete absence of the sentiment of disgust.

An *increase of the sexual instinct* forms, in many cases, the centre-point of the morbid ideas and efforts; in other cases it is only accessory and moderate, often it is entirely absent. It is manifested by obscene language and writings, in movements of the hands, exposing the person, onanism, etc. On the whole, it appears to occur more frequently in female patients. *Irregularity and suppression of the menses* exist in the great majority of cases: their re-establishment has often no effect upon the mental state, often it has an aggravating influence; at other times it appears coincidently with recovery.

Changes in the organs of circulation and digestion are not always present. Although it is of great importance, when such derangements exist, that they should be minutely investigated, in order to establish the indications of treatment in individual cases, yet they are of little importance in the diagnosis of the mania itself. Then the pulse is sometimes of normal frequency and fulness; it is seldom slower, more frequently a little faster than usual, and rather small and full. Nervous palpitation and the ordinary signs of chronic organic heart-disease are here, as in mental disease generally, of only ordinary frequency. According to observations made in the asylum at Vienna, the heart-sounds are indistinct during great excitement, and become again clear when calm sets in. It is not uncommon to see considerable, sometimes very great cerebral congestion, redness of the face and heat of the head. It is only exceptionally that the countenance is pale; sometimes it presents a cyanotic hue; the eyes are sometimes injected.

In the vast majority of cases there is no fever present. The temperature of the body, as determined by the thermometer, is normal or somewhat diminished; it is only during the maniacal excitement of progressive general paralysis that the temperature of the body is said to be increased. (L. Meyer, 'Charité-Annalen,' viii., 2.)

The tongue is often furred, and the salivary secretion increased; the patient seldom complains of thirst, except where it is caused by an immoderate desire for alcoholic liquors. Frequently the bowels are irregular and constipated, as is usually the case in cerebral diseases generally.

The majority of maniacs appear emaciated, notwithstanding their increased appetite. Owing to this and to the tension of the countenance, they appear older than they actually are. The diminution of the nutrition is very frequently due to former morbid states—anæmia, febrile diseases, or even to the melancholia. Without doubt, however, the emaciation may also be owing to the increased evolution of force and want of sleep in mania. In some cases, also, it is the result of tuberculosis or of some other serious disease. There are innumerable varieties of these accessory symptoms, the result of former or existing disease of other organs, and which need not always necessarily be closely connected with the insanity.

§ 137. As to the *invasion and course* of mania, it is observed sometimes as a pure and independent form of mental disease, as we have hitherto considered it—as a stage of development in the successive series of mental disorders; sometimes transient attacks of mania, or more correctly of fury, occur in individuals who are already subjects of profound mental disease, especially in all the various forms of mental weakness. These attacks are frequently owing to external causes; for example, to anger: frequently also they are caused by hallucinations.[1] Here, the characters of the chronic affections, in particular the weakness of the intellect, are always combined with the symptoms of the acute attacks. These paroxysms are connected with those convulsive states which occasionally appear during the course of paralysis.

In epileptics, also, it is not uncommon to observe attacks of mania which are often characterized by a high degree of blind fury and ferocity. Sometimes they immediately follow the epileptic attack, as if the excitation to the tumultuous motory movements were simply transferred to other parts of the brain.

Anæmic states appear to predispose more to the outbreak of mania than states of plethora. Profuse hæmorrhage (as in childbed, menorrhagia, frequent bleedings), states of exhaustion after typhus fever, or after rapidly advancing tuberculosis or prolonged excesses, may in many cases be recognized as proximate or predisposing causes. The acute meningitis of adults is frequently accompanied by a delirium which resembles mania in every respect; and occasionally there is afterwards developed from this disease a more chronic form of mania.

During the *course* of mania there is usually an alternation of remissions and exacerbations, and it is not unusual to see even complete remissions. Thus, cases have been observed in which the patients during entire months were only maniacal on alternate days, with completely free intermediate days—a mode of cerebral affection in every way analogous to other rhythmical neuroses. Very often an exacerbation occurs during the menstrual period, at other times violent paroxysms and remissions occur without any appreciable cause, perhaps in consequence of changes which take place in other chronic morbid states which accompany the mania; in particular, we sometimes see complete free lucid intervals set in quite suddenly and unexpectedly.

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[1] Neumann ('Psychiatrie,' p. 74) remarks that these attacks of fury increase in presence of others, while in simple mania the patient generally becomes quieter on the entrance of the physician or attendant.

Melancholia often alternates with attacks of mania; occasionally there is a regular (for example, at certain seasons of the year) alternation of exaltation and depression (*folie circulaire* of the French writers). In these cases the melancholic stage is generally somewhat more prolonged than the maniacal, which consists rather in a state of general excitement and restlessness than in actual mania. At other times we see attacks of mania occur after regular or irregular lucid intervals every one, two, three years, etc.—*periodical mania*, a grave form, a real psychical epilepsy which shares the unfavorable prognosis with ordinary epilepsy which has become habitual.

Mildner ('Psychiatr. Corresp. Bl.,' 1857, No. 17) communicates an interesting case where an individual of limited intellectual capacity, with insufficiency and murmur at the aortic valves, in consequence of a violent shock fell into an attack of mania which lasted for only an hour and a half, and returned twice or thrice in the year. The very transitory maniacal attacks (mania transitoria of very short duration, occurring in the course of apparently perfect health) may be all the more readily compared with attacks of epilepsy, as sometimes even the latter end in mania. In a medico-legal point of view, it is, of course, quite the same whether the state of mania during which the crime was committed was of long or of short duration. It is of great importance to know that undoubtedly such quite transient attacks *actually occur*.

The single paroxysms of mania last sometimes only a few hours, sometimes entire months; frequently there is observed after the first few weeks a considerable remission. Sometimes it appears as if the paroxysms of mania constituted a sort of resolution and compensation for the former state of mental pain, in the same way as we see in epilepsy and hysteria many disagreeable and painful sensations which precede the attack disappear with it. Maniacal attacks which are mild and moderated by remissions may last for many years.

It is a well-known fact, that very often during the course of mania the symptoms of other serious diseases are arrested in a remarkable manner; in particular, the patients seldom or never complain of pain; in phthisis they cough very little, and can speak and cry vociferously. This is not to be considered as an actual arrest of such organic diseases; on the contrary, they continue their course of destruction of the organ, as is shown by the objective symptoms; but an anomaly of sensation similar to the absence of the feeling of fatigue and of hunger which, combined with the patient's absorption in this delirium, renders him little liable to subjective impressions.

Maniacs may *recover* suddenly, or this favorable result may be gradually arrived at after progressive diminution of the symptoms. The excitement ceases, the lucid intervals become more frequent and longer, the behavior becomes gradually more orderly; the patient again inquires concerning this or that person, experiences *ennui* and tries to recover himself. Sometimes, also, we observe that the cessation of the mania is coincident with the appearance of some other disease; for example, intermittent fever, diarhœa, skin diseases, furunculi, etc. We ourselves have in certain cases observed such so-called critical appearances; generally, however, they are absent; and the statement of Esquirol, that no recovery is to be considered permanent which is not accompanied by a well-marked crisis, appears to us to be entirely without foundation. The most trustworthy symptom of recovery is the return of the former desires and pursuits of the patient, and of his unimpassioned behavior and acknowledgment that he is really ill. We have on several occasions seen the observation made by Jessen very strikingly confirmed, that a relapse is especially to be guarded against in cases where the (apparently calm) patient feels remarkably well, and speaks with exuberant joy of his complete recovery. Even those who are completely cured are always predisposed in a high degree to a return of the disease.

In individual cases, our *opinion concerning the curability of the disease* is regulated principally by the symptoms which the patient presents of more or less presumable organic disease of the brain. Those cases may be considered absolutely incurable in which symptoms, however slight, of general paralysis are present (see § 4); all symptoms of persistent convulsions or paralysis in the extremities, of the facial nerve, or of the pupils, are equally unfavorable. These symptoms, at least when they are not quite transitory—occurring, for example, in consequence of temporary but violent cerebral congestion,[1]—appear to indicate a permanent extension of the morbid process to the parts situated at the base or in the centre of the brain. Indeed, the cerebral hyperæmias which are so frequent in mania may occasion the development of exudations and their further transformations. The more the disease is prolonged, the less it is interrupted by lucid intervals and remissions; and the more intense the hyperæmia, the more these exudations are to be feared. The great majority of recoveries from mania take place within a year from the commencement of the disease: nevertheless, cases occur where recovery takes place after the disease has continued for six or seven years, generally with radical constitutional changes in the organism of the patient. Great violence and fury in the attacks are in no way unfavorable in regard to the curability of the disease, no more than violent hysterical attacks are of evil omen in the prognosis of hysteria. According to all the observations which have hitherto been made, the periodic intermittent form of mania must in general be considered incurable.

The fact that in many cases the prognosis depends much less upon the cerebral disease than upon the presence of other local or general affections—for example, phthisis, great anæmia, hydræmic or scorbutic states, etc.—requires no further explanation. Not unfrequently, convalescents from mania fall into a condition of profound bodily and mental weakness, which at first cannot with certainty be distinguished from transition into dementia; sometimes the disease terminates with a short stage of melancholia.

When the patient does not recover, the mania may, with the greatest outward calm, be transformed into the form of monomania, or may degenerate into one of the chronic secondary states of mental weakness—into one of the various forms of dementia, with or without intervals of agitation.

In mania, death may result from the cerebral affection itself, in consequence of violent hyperæmia of the brain, or more rarely of apoplectic extravations. Frequently the patients die in a state of exhaustion, with the symptoms of collapse (as frequently occurs in epilepsy), in consequence of acute or chronic disease in other organs, as pneumonia, pleurisy, carbuncle, violent intestinal catarrh, phthisis, etc. Accidents, such as leaping from a window, etc., are, in this form of insanity, not unfrequently the cause of death.

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[1] See the chapter on "Pathological Anatomy."

EXAMPLE XXXII.—*Simple mania, with sexual excitement and cleptomania; recovery.*—Gottfried Demons, æt. 22, of delicate constitution. During childhood he had been been frequently affected with eruptions of the scalp: his character is peculiar, and his intellect weak. His maternal grandmother had been insane for seven years, and he, at the age of nineteen, fell into a state of melancholy, which, under the use of remedies, disappeared in three months. At twenty-one, he suffered for some time from obstinate constipation and vomiting. In May, 1811, on reading the narrative of a traveller, he felt himself deeply affected by the hardships which that individual had had to endure. The following day he complained of being ill at ease, and an emetic was administered to him. Two days after, the patient was seized by an attack of persistent fury and incoherent talk (large doses of tartar emetic and purgatives). During the fifteen days which followed, he had, at different times, lucid intervals of several hours' duration, but they were always succeeded by an attack of fury. Nevertheless, these attacks gradually diminished in intensity; towards the middle of June they became more rare, and the patient chatted continually from morning to evening. During the night, however, he enjoyed several hours of calm sleep. The pulse was tranquil; the countenance worn; the appetite increased; the bowels constipated. At times some slight convulsive movements were observed in the limbs.

A month after the commencement of the illness, the patient was taken to Siegburg. During the first ten days which followed his admission, he remained in a state of constant delirium and incoherency, and exhibited a tendency to commit acts of violence on those who surrounded him. Nevertheless, it was generally during the day that he had his attacks of fury, and during the night he had generally several hours of calm slumber. Although during the paroxyms he indulged constantly in violent movements, the pulse never rose above from 70 to 80. The temperature of the body was almost normal; the tongue was clean and moist; the patient spat often; the stools were costive. Towards the end of July, the intensity of the maniacal attacks diminished, although the invalid was always a prey to a certain state of excitement and extraordinary confusion; he talked nonsense the whole day, but his ideas had not the least connection, and no trace of a dominant idea could be found in his talk. He was still dirty, and attacked his food with brutal gluttony, etc. The nights were generally calm; the pulse and the temperature of the body continued almost normal (extract of belladonna for four weeks; then tincture of digitalis from the beginning of October to the end of December). Under the influence of the latter remedy, the pulse fell sometimes to 50. In the carotids it was fuller and more tense than formerly. The patient had, from time to time, a tendency to epistaxis. On the other hand, it was then observed that he had an excitement of the genital organs which had not been before observed. He attacked all the maid-servants whom he saw, and indulged in onanism without shame. Otherwise, from a psychical point of view his state had changed very little, except that from the end of October he was somewhat less confused in judgment; but the emotional perversion had rather augmented, and he exhibited a manifest disposition to steal—an inclination which had never been observed in him while in health. From time to time he still suffered some paroxyms of maniacal excitement, which again necessitated the use of the strait-jacket to prevent him from committing acts of violence.

At the commencement of January, the use of these remedies was stopped. Every two days the patient received a douche of twenty buckets of cold water poured on the head; and every week three leeches were applied to the nostril. He now improved in a surprising way. By the end of February, he could answer correctly all simple questions. The attacks of maniacal excitement completely disappeared, as well as the disposition to steal and the venereal tendencies. After a short time his intellect was restored; his conduct became regular. He quitted the asylum in July, after having spent a year in it. (Jacobi, 'Die Hauptformen,' i., 1844, p. 81).

EXAMPLE XXXIII.—*Moral causes; mania with tendency to derision, nymphomania (prurigo pudendi). Recovery.*—Catherine J—, æt. 39, without any hereditary tendency to insanity, enjoying good health, exhibited, while quite a young girl, deeply religious feelings, at the same time a very amorous disposition. She married one of her near relatives, after having had a child by him. After a year and a half she lost her husband. He was very rich, and had often lent money, taking securities for it upon property, which forthwith he caused to be sold and bought in. He was, accordingly, universally hated; and it used to be said, after his death, that on several occasions he had been seen, during the night, in the form of a phantom of fire, passing over the lands which he had thus bought. Catherine was greatly alarmed by this report, to which she was ready to give credence. She fell at first into a state of agitation and anxiety, brooding over a thought which had troubled her before, namely, that by reason of her near relationship to her husband, the marriage which she had contracted with him was nothing but a concubinage, and that the phantom had come to reproach her with the crime, as well as with the property which her husband had acquired by his forced sales. She then conceived the idea of restoring these possessions to their former owners; she examined conscientiously the titles of the property, and the means by which her husband had gained his fortune. She obtained in that way the proof that, as far as she was concerned, the property had been legally acquired: but that gave her not the least tranquillity; the apparition of her husband under the form of a spectre of fire was always present to her mind. She remained calm, silent, and cold before company; her eyes remained fixed on the same point. She saw and heard nothing, save the profound restlessness which tormented her within. This state of things continued for about two months, when she became agitated, unable to remain at home, coming and going to and fro. Then she set out to go to her friends at Riedelheim. When she arrived, she gave herself up to a perfect extravagance of politeness and of compliments, expressing herself with extraordinary elegance; then, on the following night, she began to cry out "Fire!" came in in extreme terror, and tore her garments (bloodletting, cold application, clysters, etc.).

I was then called in. When I entered her room with one of her neighbors—a man of dry manners and very little given to compliment, who had a long nose,—she advanced towards me in a friendly way, asked how I did, and made me a profound bow. Then she turned several times on her left foot and burst into laughter. Her neighbor observed to her that it was unbecoming to behave in that fashion before the doctor. "Idiot!" she answered, "ask the doctor to help you to comprehend; you might reach it with your long nose." She then began to cry out, and to call him names, and wished to bite him. He got out of the way. She then leapt with great adroitness on the couch, and from that on the foot of the bed, where she began to dance like a rope-dancer. She sang, wept, and laughed by turns. She never ceased to talk foolishly, flashing out ideas quite incoherent and without connection, and which were without meaning, except that she was enraged. She seemed a satyr. At the door there was an opening through which she could see into the street. Upon all who passed in front she made wicked, although partially true, observations, relative to the bad side of their character, or to ridiculous incidents in their lives. At times she ran from one corner of the room to another, as if she were scared by something; again she would make violent and rapid movements of the right arm, as if she struggled with a spectre; but she never had a moment's rest. The face was pale, but when the patient was furious it became red. The veins of the brow became swollen like a quill; the eyes injected; the lips red; the countenance menacing; all the muscles tense. She tore her dress; knocked on the window, and scraped the walls. She had an enormous appetite, and ate voraciously the food that was given to her. She made water and went to stool without concerning herself whether any one was near.

By night she slept for only a few hours; immediately when the rays of the sun appeared she was again agitated. Her menstruation was regular; at the time of her courses the paroxysms were most intense. Whenever ideas having any connection came, they were biting sarcasms. She named her guardian Monsieur Robespierre, and she added, "In German, that means M. the valet of the executioner." After a few coherent thoughts, there came all at once an uninterrupted flow of words completely devoid of sense; although sometimes amid this confused nonsense there might be distinguished some ideas relating to maternal love.

She continued in this condition during several months; then I was again asked to visit her. I found her in the following state:—Except sight and hearing, the other senses were gone. She was nymphomaniac in a high degree; rubbing the genital organs, swearing at her unsatisfied desires; asking for men, etc., etc. All this formed an assemblage of symptoms which could not be mistaken.

I subjected the patient to prolonged walks along unfrequented roads; and when she had a violent attack of fury, I gave her 50 drops of the distilled water of bitter almonds concentrated. The fury ceased immediately. The patient sank down on a mattress which was beside her, and remained calm. But at the end of two hours the *furor uterinus* returned, the patient believing that she saw in every man an old lover (distilled water of almonds, 50 to 150 drops, three times a day). The sense of touch and of taste seemed to return somewhat; the patient talked a little, although very vaguely, of her children, but she always thought she saw her lovers around her. The attacks of mania became shorter and more rare; the patient obtained a little more sleep, and remained also more calm in bed. We could already suggest to her the memory of certain important circumstances in her life. When she took to raillery, that generally betokened the near approach of an attack of fury; and when her raillery became refined and intellectual we might count on the certain approach of an attack. She did not any longer tear her dress, but, on the contrary, she liked to attire herself neatly; she no longer spoiled articles except at rare intervals, and the least repremand was enough to cause her to conduct herself becomingly. As in the case of children, it was necessary to resume her education at the first elements, and to lead her progressively to a higher stage. But the attacks of furious delirium did not yet altogether cease. In the interval of the occasions when she took her medicine (water of bitter almonds), and ordinarily two hours after having taken it, she was seized by an attack of fury and an immoderate desire of coition. Fifteen days after each menstrual period, little bleedings of ten ounces were taken from her. From that time the attacks of delirium became rarer, and the patient began to complain of itching and heat in the genital organs. Then gradually the patient was induced to work. Good example and good counsel led her back to religions convictions, and she was at length cured after a year's illness. (Velten in Nasse's 'Zeitschrift,' 1820, p. 709.)

Example XXXIV.—*Two attacks of mania, each after strong impressions of smell during confinement and nursing; a third attack after a premature birth. Recovery.*—R—, æt. 34, was admitted to the asylum on the 10th November, 1813. She is of soft temperament, but very sprightly; tall; hair of chestnut color; eyes large and brown. At sixteen, menstruation set in without difficulty; at twenty-four, R— was married.

In her twenty-sixth year, three days after her first confinement, a lady perfumed with musk came to see her. Immediately she became delirious; nevertheless, she continued to suckle her infant, which died at three years of age. This first attack was characterized by mania with fury, and lasted only two months. It ceased suddenly after a sudden fright. Since this first attack, this woman has continued very susceptible. Every spring she was subject to exaltation unaccompanied by delirium, which was dispelled by the use of antispasmodics.

In her thirtieth year, while R—weaned her infant at the age of one year, she went to the shop of a man where there was painting. The smell immediately excited delirium, which increased during five days, and was succeeded by mania with fury. On the fourth of August, 1809, she was admitted to the Salpêtrière. Very marked abatement; R— is calm, and seems in possession of her reason. Her husband solicits her dismissal, and obtains it on the 12th October following. From the second day after her dismissal, return of delirium, of mania; stoppage of menstruation; abdomen swollen. Returned to the asylum the patient becomes quiet on the approach of winter. In December, the courses are re-established, and R— leaves the asylum June, 1811.

In her thirty-fourth year, 1st November, 1813, premature birth at two months; hæmorrhage. From the second day, great talkativeness. 3d November, mania, fury; the patient is taken to the asylum. On her arrival, her eyes are haggard; her face pale; look abashed; general raving; mania, fury. Three days after, she is calm, and recognizes the fact that she is in the asylum.

On the 16th November, the courses cease. The patient sees her husband with evident interest; she is sad, but her answeres are accurate. On the 28th, fever; gastric oppression; copious ejection. Since that time her ideas are connected; R— is calm, and engages in work; gradual return to reason.

On the 21st December, R— leaves the asylum quite sane; although the courses are not perfectly re-established. (Esquirol, translated by Bernhardt, i., 1838, p. 152.)

Example XXXV.—*Paroxysms of fury, accompanied by attempts at murder, coming in the place of epileptic attacks.*—A peasant, born at Krumbach in Swabia, whose parents did not enjoy the best health, æt. 27, and unmarried, was subject from his eighth year to epileptic attacks. Two years ago, his disease changed its character without any one being able to account for it; and in place of epileptic attacks, the man found himself seized by an irresistible disposition to commit murder. He feels the approach of the fit several hours, and sometimes a day, before it comes on. Immediately when he has the presentiment, he earnestly asks to be tied up and bound with chains, lest he commit some crime. "When it takes me," he says, "I must kill—I must strangle, were it only an infant."

His mother and father, whom, for all that, he loves dearly, were the first victims of these fits: "Mother," cried he, in a loud tone, "save yourself or I must strangle you."

Before the fit, he complains of being overpowered by sleep, and yet without being able to sleep. He feels himself greatly exhausted, and experiences slight convulsive movements in the limbs. During the fit, he retains the consciousness of his own existence, and knows perfectly that in committing murder he is guilty of a crime. When he has been placed beyond the reach of doing harm, he makes contortions and frightful grimaces, sometimes singing, and sometimes speaking in verse. The fit lasts from one to two days. When it is over, he cries, "Unloose me. Alas! I have suffered greatly; but I have got out of it well, since I have killed no one." (Esquirol, von Bernhardt, ii., p. 371.)

§ 138. More minutely to describe the various forms of mania represented by authors would be of no special interest. They are arranged, as we have already indicated in a former paragraph, partly according to the various tendencies and desires which manifest themselves in a prominent manner (nymphomania, mania saltans, furor poeticus, etc.), partly according to the various causes of the disease (mania puerperalis, parturientium, potatorum, etc.). As to the latter form, *delirium tremens*, in all cases in which it is well marked, it consists in a generally moderate degree of mania, which is likewise almost always preceded by a short stage of melancholia, and with which there are ordinarily, at the same time, present some degree of stupor, trembling of the limbs, persistent sleeplessness, and copious perspiration. Frequently a state of anxiety is present during the whole maniacal period, and keeps up the excitement; very frequently there are also hallucinations of sight of the most varied description, which in the great majority of cases consist of phantasms of animals, mice, horses, birds, etc.: the delirium also turns upon various other illusions and phantasms of a predominantly sad and anxious nature.

We shall not here enter into details regarding *delirium tremens*. It is not usually classed amongst mental diseases, and owing to its short duration is not often met with in asylums. Nevertheless, the institutions of large towns are constantly liable to receive a number more or less considerable of these cases; their statistics are on that account, as compared with other asylums, essentially modified (much more favorable). Of 322 delirium tremens patients admitted into the Bloomingdale Asylum at New York, 20 died, 286 recovered, and 16 were still under treatment: the fatal issue occurred generally within the first week. (P. Earle.)

The *nymphomaniacal* states, *i. e.* those of increased sexual excitement in the female sex, do not always manifest themselves by an open expression of the sexual excitation; more frequently they assume a milder form, such as flirting, love of dress, freedom of conversation and a certain familiarity with the physician, much talking about marriage, little equivocations, etc. We frequently observe in women affected with this form of mania, a constant desire to wash the body, to comb the hair, to destroy their clothes, to spit at people, to scold the female attendants, to suspect other women in a sexual respect. (See Neumann, 'Psychiatrie,' p. 79.) These states often last for a long time. Finally, mania with the character of nymphomania sometimes assumes the form of an acute affection, leading rapidly to exhaustion and death: in these cases there is generally acute inflammation of the internal organs of generation. (L. Meyer, Virchow's 'Archiv,' ix., 1856, p. 98.)

Those cases which several French observers (particularly Brierre) have described under the title of *acute delirium* (délire aigu), appear to merit being distinguished as a special form of mania, and to demand further investigation. These cases are characterized by the rapidity of their outbreak; by furious delirium with incessant incoherent, senseless ch
but with the dominant expression of anxiety, and, frequently

being poisoned; by vertigo, awkard trembling movements, as if the patient were half intoxicated; frequently, slight muscular contractions, sleeplessness, paleness of the countenance, dry tongue, rapid exhaustion. According to Bierre, these states are often accompanied by fever; they last from a period of from several days to six or eight weeks, they often terminate fatally through sudden collapse; after death, hyperæmia of the cerebral membranes, or nothing at all, is found.

Cruveilheir and Abercromby have already described such cases. See Brierre, 'Union Médicale,' 1849, and 'Mémoires de l'Académie de Médecine,' tom. xi.; Luther Bell, 'Amer. Journal of Insanity,' 1849; Jensen, 'Zeitschrift f. Psychiatrie,' xi., 1854, p. 616.

§ 139. The frequent states of *incompletely developed mania* are of great practical importance; in the majority of cases they represent the first stage of exaltation which precedes the outbreak of mania or of monomania, or a period of remission between two maniacal attacks, or even a stage of termination of mania. Occasionally, however, this state continues for a long time in the same manner, and it may then very properly be considered as a special form of insanity with the character of exaltation. We have already in part made mention of this state as a relatively mild mode of expression of certain desires and instincts, while the patient still shows no striking disorder of the intelligence. Frequently, however, there is also observed a general increase of volition not concentrated upon a definite series of objects; and this is manifested as an uncommon and inconstant activity and restlessness, as an ardent desire always to begin something new, as a necessity to alter and remodel the external world according to eccentric projects. Such patients have always something to do—speculations to enter into, to buy or to sell, to present, to build, etc.; all they see or which happens to them they would have and possess, and very often they thereby spend large sums in a very short time. Ordinarily, they are very vain, show a desire to be considered great and to excite admiration; their demeanor is confident and arrogant: the humor generally changes rapidly from joy and frolick to depression, and again to violent outbreaks of anger, the latter especially when their actions are opposed and their pride hurt. Some show a tendency to cunning and intrigue—others a desire to steal, to drunkenness, erotic tendencies, expansive religious ideas. The patients generally talk a great deal, loud and rapidly, but without special delirium; their discourse shows that they have an exaggerated idea of self, but without the delusion of being some other illustrious person; they have merely a tendency to estimate to the utmost their faculties and powers—their wealth, their physical strength, health, or figure. The high estimate which the patient has of himself frequently extends to all that belongs to him, and the mere fact of anything being in his possession is perfectly sufficient to endow it with extraordinary qualities.

In this description, given from actual observation, and which agrees with that of Jessen,[1] there will be recognized a state of moderate exaltation, which, when the explosion of the effort takes place towards the exterior, becomes mania; when the increase is more internal, and fixed delirious conceptions are developed, becomes monomania. The further his condition is from one of these evident characteristic forms—that is, the less the patient is delirious, the more is he in a state to justify his morbid tendencies by reasons which still lie within the bounds of possibility, and do not yet appear to be decidedly the result of insanity—the more easily will the morbid nature of his state be overlooked and confounded with the result of the normal tendencies of a capricious and original individual. He then falls under the category of *folie raisonnante*, of which this constitutes the maniacal form.

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[1] Art. "Moria," 'Berl. Encycl. Wörterbuch,' Bd. xxiv., p. 127.

Should the affection remain at the stage of development which we have described, it may either terminate (after a short duration) in recovery, or pass into a state of mental weakness in which the dominant joyous self-satisfied and self-contented humor becomes fixed, and manifests itself in silly, foolish acts and desires—laughing, dancing, etc.; in childish play, in the collection of worthless things, upon which, however, he places an extraordinary value, etc. For this form of mania it will be most convenient to keep by the name of *moria*.

The following case offers an example of this kind of moderate, uncomplicated, and paroxysmal exaltation, not progressing to fully developed mania or to monomania.

EXAMPLE XXXVI.—Johann Reiberg, æt. 37, vigorous, without hereditary tendency to insanity, living in good circumstances as an agriculturist. At the age of twenty, he had for the first time an attack of insanity which lasted for six weeks; since that time he had seven similar attacks, returning at intervals of one, two, or three years.

On each occasion the disease followed a course like this:—he was at first, for some time, dull and downcast; then there succeeded an always increasing excitement, but which, even in its most intense paroxysms, consisted of a simple exaggeration of the ordinary dispositions of the individual. His love of horses, dogs, and the chase became stronger than ever, and he displayed extraordinary activity in agricultural operations. He was then extremely enterprising; continually busy, and engaged from morning to night, without rest, in the hardest field-work. He had a great opinion of himself, and easily became enraged. His judgment was somewhat feebler on these occasions. At the same time, he was distant in manner; shunned the members of his family, and in their presence was cold and impolite. During these fits he spent the night generally without sleep, without his activity suffering in the least from that circumstance on the following day. The appetite increased; and although when not suffering from these fits he was temperate as respects the use of alcoholic liquors, he had then a great tendency to drink without going the length of intoxication. Never, during these moments, did he, to say the truth, suffer from any profound intellectual derangement; but several times he betrayed passing conceptions bordering on insanity. In all the fits, insanity did not betray itself except by a general excitement of all the mental faculties, and by the instinctive character, so to speak, of those acts by which he manifested his will and his desires. In the course of from four to five weeks this state attained its maximum, and the excitement then rapidly disappeared; but the restoration to his normal character was not effected until after the intervention of a period of dejection similar to that which marked the commencement of the attack, and which lasted for several days.

The patient himself, while the attacks lasted, was conscious of his state, and when they were over was abashed and ashamed. Several times he showed the desire, if the attacks were renewed, to place himself under medical treatment at Siegburg. At length, when he was violently seized another time, he was conducted to the asylum, in September, 1829. His attack had by that time nearly reached its height, and soon began to decrease and to give place to the ordinary period of dejection. The patient then returned to his normal condition.

What were the causes which from time to time induced this irritable condition of the brain and entire nervous system, which sometimes attained an extraordinary degree of intensity? It is difficult to explain. But it was found that the patient had since his childhood indulged in habits of onanism, to which he yielded himself up very frequently. Continually tormented by remorse, he formed the resolution of no longer abandoning himself to his unhappy inclination; but after having struggled in vain for some time, he ended by yielding, and soon after, following the exhaustion of the brain and of the nervous system, there came the period of maniacal excitement which we have described.

The treatment consisted in a moderate diet; tepid baths, with cold shower-baths; moral influence and compulsory expedients to restrain him from onanism. These were successful in keeping him for at least several months from his shameful habit. (Jacobi, 'Die Hauptformen der Seelenstörungen,' i., 1844, No. 1.)

§ 140. Before concluding the consideration of this subject, it may be well to say a few words regarding the so-called *mania sine delirio*, a pathological variety established by Pinel—we may say—to the detriment of science; for so true and so serviceable was the remark which Pinel deduced from his observations, that the impulses and violent actions in mania are *not always* founded upon perversion of the ideas—we are of opinion nowadays that originally this is altogether not the case—so confusing was it to give the same designation to two different morbid mental states; namely, on the one hand, to actual periodic attacks of fury with very little delirium, and, on the other hand and principally, to those moderate states of mental exaltation referred to in the former paragraph, in which the patients perform foolish actions and show perversity of demeanor, but are also in a position to justify and to explain their conduct by a course of coherent reasoning which still lies within the bounds of possibility, *i. e.*, *folie raisonnate*. The disciples of Pinel have even ranged other states under the same title; for example, that condition which we have described as a moderate degree of melancholia with violence, and, more than this, even outbreaks of violence in consequence of hitherto concealed fixed ideas: for the latter there is not even the appearance of reason.

If we consider more closely to which maniacal states the designation *mania sine delirio* can be applied, we recognize the fundamental fact that in no single case of mania is the conscious thought, the intelligence, perfectly free from any disorder. Even in the very slightest degrees of mania the intelligence participates in the general exaltation, though it be only to the extent of increased liveliness and rapidity of thought; generally, however, there is incoherence. In all attacks of fury, clear, calm, healthy thought is quite impossible. It is true that maniacs can occasionally, by means of exhortation, be brought for a short time to their senses, and be enabled to give correct answers; but this only shows as Jessen[1] remarked, the possibility of temporary remissions and intermissions; "the patient is not delirious when he speaks sensibly, and he does not speak sensibly in those moments in which he is delirious." Neither can we speak of the absence of delirium in those cases, which we have described, where there is a morbid impulse to commit acts of violence. Then those murderous ideas which are not at all in accordance with external moral causes, but awakened by a morbid disposition, are already in themselves delirious ideas, just as in furious mania, and in all violent emotion—for example, rage—there arise new ideas, opinions, and conclusions, corresponding to the morbid disposition.

Those states in which there is least confusion of ideas and delirious perceptions, in which there is the greatest amount of logical coherence in thought, are the slight states of exaltation which we have described in the foregoing paragraph, which, however, are generally merely the forerunners of the commencement of violent mania. For these, for *folie raisonnante*, we might, as Pinel in part did, use the name *mania sine delirio;* but, as in concrete cases it is of little practical advantage to range cases under consideration under certain names, but of far more to obtain a psychological appreciation of the fundamental morbid psychical state, the circumstances which have caused its development and its consequences, it is, at all events, more advisable to allow those obscure names which provoke the curiosity of lawyers and other laymen to fall completely into disuse.

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[1] 'Berl. Encycl. Wörterbuch,' xxii, p. 420.

In a court of law the morbid nature of these states is most easily demonstrated in cases where the disorder has come on *within a short time*, or returns at intervals, and therefore admits of comparison with the state of health in the same individual; also in cases where there are concomitant nervous or other bodily symptoms. It is, on the contrary, difficult to prove that a certain state is morbid when it has been slow and gradual in its development, when it has become habitual and passed into fixed peculiarity of character. It should constantly be borne in mind that an individual may talk "quite rationally," and at the same time show by his acts and by his conduct (and even by what he does not do) that he is mentally deranged.

SECTION II.—*Monomania.*

§ 141. Under the term monomania are comprehended those states of exaltation which are characterized by affirmative expansive emotions, accompanied by persistent over-estimation of self, and the extravagant fixed delirious conceptions which proceed therefrom.

It is this form which Heinroth has described in great part under the name of *Ecstasis paronoica*, and which Jessen has designated *Schwärmerei* (and in part *Aberwitz*, craziness). Our form only corresponds in part with those states described by Jacobi as monomania, as the latter also included melancholia with delirious conceptions.[1] The majority of the French medical psychologists call these states *monomania* (acute) *of ambition, of pride, of vanity;* also (according to Rush) *amenomania*. These conditions are, it is true, specially observed in many of the cases which terminate in dementia and paralysis; but it would be very erroneous to suppose that monomania is always the first stage of this form—it frequently terminates in recovery without any paralytic appearances, and the "monomaniacal" delirium of paralytics has moreover something peculiar, namely, the early invasion of symptoms of mental weakness.

We refer the reader, in the first place, to what has been said concerning the states of exaltation in general, and also to paragraph 135, and may now proceed to a short description and explanation of the morbid phenomena in monomania.

Anomalies of Self-consciousness, the Desires and the Will.—In this form of insanity these are all grouped together round a common centre, viz. the exaggerated idea which the patient has of himself. This is psychically grounded. Inasmuch as the power of volition, which during the melancholic stage was weakened or entirely suppressed, has not only returned, but is actually exalted (externally in the form of increased activity)—inasmuch as, at the same time, this freedom of impulse to action is accompanied by great freedom of thought and an abundant flow of ideas—there results a feeling of great self-satisfaction; the patient rejoices over his great mental (and bodily) well-being; he feels himself richer and more free; every exertion has become easy to him; therefore he considers himself to be not only perfectly healthy—and rejects with indignation any expression to the contrary—but he frequently declares that he never in his life felt so well and so happy. The exalted self-consciousness manifests itself as an elevated frame of mind, as a joyful disposition, sometimes with the visionary enjoyment of sublime sensations; it is further manifested in great self-confidence, in presumptuous, audacious, proud, and supercilious behavior, in which the patient displays sometimes a superficial self-satisfied affected bearing, sometimes a more deeply seated haughtiness and pride, and a desire to magnify himself in every possible way. This affirmative disposition is persistent, it does not alternate with other dispositions without external motive, as is the case in mania. It may, of course, be momentarily interrupted by external circumstances. The patient becomes irritable and violent; and if any one expresses a doubt as to the accuracy of his assertions, or opposes by remonstrance or force the execution of his extravagant acts, he at once becomes impatient and angry; he seeks to justify his actions and ideas, and will permit nothing to approach him which might encroach upon his elevated frame of mind.

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[1] In several parts of his work upon Mania, for example, in the 18th and 19th illustrative cases.

The increased power of volition is manifested in the necessity for increased eccentric activity, especially, however, in numerous extravagant plans and projects, the accomplishment of which appears quite possible and easy to the patient, who believes himself capable of anything. In this he presents a great similarity to—yet with a marked difference from—the demeanor of the maniac. For, as in mania, so in monomania, the primary and principal desire is that of manifestation of power; but in mania this necessity of an emotional explosion *immediately* produces muscular movements (sometimes tumultuous) in which it relieves itself. Hence the instinctive character, but outwardly exalted, of these states. The more, on the contrary, that co-ordinated series of morbid ideas and opinions act upon the exalted will, the more the current towards the exterior is set in motion, not merely by an obscure tumultuous necessity, but by conscious thoughts—the more, therefore, that some sort of plan presides over the morbid will, the further is the condition removed from mania and drawn towards monomania.

This difference is seen most distinctly when, as is very often observed, certain groups of sensations and obscure ideas appear with especial vivacity and urge themselves towards the exterior as instincts; for example, the sexual passion. The maniac with simple exaltation of the sexual instinct seeks to gratify his desire in the most direct manner; he attacks every female who comes in his way; and the nymphomaniac makes obscene advances to every visitor. In monomania, on the contrary, the exalted sexual instinct, before it passes into action, is guided by new ideas and opinions (of a morbidly exalted kind) which occupy the mind: the patient will then only gratify his desires in the sense of his over-estimate of self and of certain delirious ideas; he only pays his addresses[1] to princesses and illustrious ladies; the female patients have imaginary love adventures with princes and kings, etc.

Thus the excitement of the monomaniac does not pass so immediately towards the exterior; effort is accompanied by clear conscious thoughts and opinions, loses thereby the instinctive character, and becomes actual morbid volition. With far greater, sometimes with perfect outward calm, there is a more profound internal loss of reason than in mania, because consequences soon result from the general exaltation which set aside the essential conditions of healthy mental action.

Anomalies of the Intelligence.—Here, also, there is first of all observable a purely formal increase in the vivacity and rapidity of thought, which is manifested in exuberance of ideas—owing to which the patient inwardly rejoices—in lively conversation, and in frequent change of the object towards which the morbid volition is directed. But, ordinarily, this occurs only at the commencement; afterwards a few delirious ideas exclusively predominate, and, without interchange with others, determine the actions.

Another anomaly of the intelligence consists in an inward increase, an exaggeration, of the ideas in regard to their subject, which shows itself by a tendency always to employ grand, high-sounding words, the most brilliant images, the highest possible numbers (thousands, millions, etc.); and inasmuch as those overdrawn ideas pass into acts, they explain the numerous eccentric plans of such patients. These naturally vary very much, according to the former circumstances of life, employment, and degree of education of the patient. The artisan magnifies his employment to the utmost; the soldier dreams of largè armies, enters upon campaigns and makes conquests: another seeks to solve impossible mechanical problems, such as perpetual motion; others discover new means of locomotion by land and sea, new railways, or steamboat enterprises to command all the seas of the world; or, again, he projects impracticable journeys, or immense architectual plans (castles, towns, etc.) entirely occupy his mind. Others busy themselves within the sphere of ideas; conceive comprehensive scientific thoughts, great humane and religious aims, etc.; believe themselves to be apostles, benefactors of the whole family of mankind, bearers of universal happiness and peace, etc.; all in accordance with the accidental external influences or the former practical tendencies or speculative aims of the patient. These ideas, however, are invariably distinguished, in the first place, by the feature of activity (in opposition to the ideas in melancholia, where the patient believes he is governed and tormented by external influences), and, in the second place, by their fantastic exaggeration.

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[1] See further on a case of this kind.

Most intimately connected with these ideas, and, like them, proceeding from increased self-consciousness and over-estimation of the individual powers, there arise, further, false ideas and opinions relating to the special *ego* and its connection with the external world. In these cases we frequently meet with the idea of being some distinguished person: a superhuman power of possessing inexhaustible resources, of occupying a high position, of aristocratic descent, etc. To this class belong those patients, so numerous in asylums, who believe that they are generals, Napoleons, millionnaires, reformers of the world, gods and heroes; the many female patients who are beloved by kings, those who believe that they hold frequent and intimate converse with the Deity, etc. But all such belong to this class only in so far as, and so long as, these ideas depend upon an actually existing increased consciousness of self, to which they again stand in the relation of *attempts at explanation.*

These false ideas have originally a significance such as the following: the idea of being Napoleon, for example, fundamentally means that the patient feels himself powerful, believes himself capable of doing great things, of accomplishing all things by his great mental and physical powers to a degree of which he had never before even dreamed, and could only be possible to one of the few great men of history.

Afterwards this affirmative disposition often becomes weaker, and even completely disappears, when the delirium alone remains. The more the elevated frame of mind, which was originally attempted to be explained by the delirium, disappears, the more does the still existing delirium degenerate into mere words, to which the patient no longer attaches any real significance, and the more does he pass into another condition, that of dementia with the character of exaltation.

So long, however, at this exalted frame of mind continues to provoke attempts at explanation, we can with instruction observe the progress of this exaggeration in the delirious ideas. A patient, for example, who had formerly been a common soldier, manifests at first merely the idea of being an officer; in a few days he is a general, and soon the leading warrior of the day: and should this not suffice—should these words not be strong enough to express the power, the freedom, and the delight which he feels within him, he becomes Lord of the universe, the Messiah, the Saviour, God; in short, he uses the highest and strongest expressions of which he is aware to denote his imaginary greatness.

It would, however, be a very great error to suppose that the patient is conscious of this explanation, as such—that he calmly considers what may be the cause of his frame of mind. This is not the case: the ideas called forth by the frame of mind arise suddenly, as in a dream, and while he, at first perhaps overjoyed, shocked, timid, or frightened by them, may be able to suppress them, yet they soon intrude themselves upon him so fixedly and so perseveringly, that he can no longer doubt their reality; for them he renounces all his former views and ideas, surrenders his old *ego*, and will even deny the testimony of his senses.

Not unfrequently, when these states have attained to a considerable development, weakness of the mental processes ensues (consisting at first generally in loss of memory and confusion of ideas). The patient, however, does not cease to imagine things, particularly in regard to his exalted feeling of satisfaction; but it appears, often, as if he were affecting arrogance and greatness merely with the view of deceiving himself and others, with reference to the already perceptible urgent and increasing weakness of dementia—of concealing, by a kind of morbid pride, a commencing void and emptiness—but of course with no direct intention. While, then, gradually this disorder of the intelligence becomes a confused mass of grand words and figures, it soon occurs, where the mental processes remain active, that certain of these delirious conceptions become completely fixed. Certain steadfast, connected circles of ideas then incessantly urge themselves into the foreground of the consciousness, govern all the thoughts, and are expressed in words and deeds. From this cause it may seem as if there were merely a partial destruction of the intelligence, while in reality the essential elements of thought—normal self-consciousness, and a correct appreciation of the special individuality and its relation to the world—are utterly perverted and destroyed.

Of these fixed ideas, which to him possesss the highest degree of subjective reality, the patient cannot be divested either by demonstration or by evidence. It is only at the commencement that remissions occasionally occur, during which the patient may admit for a short time the error of his delusion, when reasons or external evidence are laid before him; while at the same time he cannot inwardly convince himself of the falsity of his ideas.

§ 142. *Anomalies of the Sensorial Functions, the Movements and the Conduct.*—Hallucinations and illusions corresponding to the dominant disposition are frequently present, and are much more serious in their consequences than they are in mania. In the latter they are soon forgotten; but here they persist, foster, and essentially strengthen the delirious conceptions. The patient, for example, sees an angel bringing to him a message from heaven; hears voices commanding him to commit certain deeds, or communicating unintelligible nonsense, which he believes to be some divine mystery; worthless objects appear precious, etc.

The movements of the monomaniac do not, on the whole, present the external excitement and tumultuous violence which appear in simple mania; they are generally more calm, and any excitement is usually the result of some external motive. An uncertainty in the muscular movements is here also very frequently the first premonitory symptom of a fatal termination—of the commencement of general paralysis.

The outward appearance and conduct of these patients is in accordance with those anomalies which we have described. One displays the gestures of pride and of power; another appears as a theatrical hero, full of high-sounding words; while others are very polite, affected, gracious and affable in their demeanor. Some dress fantastically; others, especially females, with extraordinary elegance; others, again, are totally neglectful of their toilette, forgetting everything in the contemplation of extravagant plans. These patients delight in giving orders, and are impatient to know that their commands are promptly executed; they are covetous, generous, and profligate. According to the nature of the dominant delirious ideas, they make various arrangements for the carrying out of their desires: letters, requisitions, and proclamations are issued; large purchases are made, and polite announcements prepared; they bestow orders and titles with a liberal hand, they prepare laborious statistics and complicated plans for the reorganization of the world, etc. Some patients appear perfectly calm; their conversation and conduct indicates an exalted tranquil joy, a sort of inward rapturous revelry of feeling. With this there are generally associated ideas of close and mystical connection with the Deity, Messianic ideas, etc., combined with hallucinations—which they carefully conceal—of the appearance of angels, heavenly voices, etc. This is the weak sentimental form of monomania, which is observed principally in onanists; but this visionary happiness may also be interrupted by violent outbreaks of anger when their wishes are opposed, accompanied by threats of Divine displeasure, and solemn prophecies of dreadful punishments which are certain to follow. In women similar states of inward rapture occur, having for their object sexual sensations and imaginary love affairs; they also are accompanied by numerous but well-concealed hallucinations.

According to the predominance of certain fixed ideas, or efforts dependent upon delirious conceptions, special forms of monomania have been distinguished and called by such names as Theomania, Erotomania, etc.

The other symptoms, although here also the cerebral disease may be accompanied by the most numerous and varied disorders of the general health, present nothing peculiar, and are very similar to those observed in mania. At the commencement, when the attack is acute, a feverish condition frequently exists; afterwards, sleeplessness, constipation, and sometimes cerebral congestion.

§ 143. The form of monomania is developed, like mania, generally after a stage of melancholy has passed off. At first the state of exaltation may rest for a long time indeterminate between the two forms. When certain delirious conceptions become fixed, the patient enters into an essentially different state; and this condition, that of confirmed monomania, is, for the reasons already stated, to be considered a much more serious affection than mania. The more calm the external behavior of the patient gradually becomes—the more the alternation of the false ideas recedes, and only a few particular but fixed ideas remain—the more there existed in the former individuality of the patient certain peculiarities which favor the rapid penetration and falsifying of the *ego* by these fixed ideas, the less is a return to health to be looked for.

During the *course* of these states there recur remissions which are more apparent than real; they have more the nature of an external quieting than of an internal cessation, and are only a calmer occupation of the mind by the delirium: complete intermissions only take place when the disease is still vacillating between mania and monomania.

The patient may recover. Then it seems to him as if a veil had suddenly fallen from his eyes; he awakes as if from a dream, and cannot understand why simple reasoning in relation to his delusion, which is now quite clear to him, could make no impression upon him during the disease. He is now accessible to reason; still it is often necessary to aid his comprehension by explanations and palpable evidence in order to completely counteract the delirious ideas which still occasionally arise, although, upon the whole, they are recognized by him as false. A completely fixed exalted delusion, when it has continued for more than half a year, is not easily got rid of; nevertheless, cases sometimes occur where the monomania gradually disappears after it has lasted for several years: when this occurs, other morbid processes are generally developed. All symptoms of commencing mental weakness—loss of memory, recurrence of incoherence, etc., indicate that the patient is becoming incurable.

When he does not recover, he never continues during the whole of his future life in the state of high emotional exaltation which is proper to this form of insanity. The affirmative disposition, the elevated frame of mind disappear, and its products, the fixed delirious conceptions, alone remain; external calm returns, and the general health improves; or the patient, owing to the development of serious anatomical lesions within the cranium, gradually falls into a state of profound dementia.

§ 144. It is very interesting to observe the close analogy that exists in essentials between the symptoms and modes of termination of the maniacal forms and those of alcoholic intoxication. This analogy is sometimes observed even in the premonitory symptoms. There are drunkards on whom wine has, first of all, the effect of rendering them quiet, thoughtful, and self-concentrated, presenting an analogy to the preliminary melancholic period.

The essential action, however, of alcoholic drinks is excitation, expansion of all the mental processess, volition especially becoming easier and more free. At first the ideas succeed each other more rapidly, the imagination becomes more brilliant, the language abounds in striking and surprising inflections, thoughts arise as if spontaneously, conversation proceeds more easily, and muscular action is more energetic: to this corresponds usually the joyful frame of mind, the psychical pleasure and power. Afterwards the drunken man throws off all restraint; the objects of the precipitate and rapidly succeeding preceptions are immediately, and without reflection, thrown outwards in words and actions; thoughts formerly kept concealed escape from him involuntarily, or he takes pleasure in giving expression to ideas of his own self-importance; he manifests fearlessness, courage, a degree of self-confidence frequently approaching to insolence; he is a braggard; he is generous and prodigal, because he appears to himself to be richer than he really is. Frequently certain desires and tendencies appear with especial force and recklessness; for example, the desire to speak in verse, to converse in a foreign language (especially in Latin), to sing, to scream, to quarrel, etc. He is very irritable, and, like the monomaniac, nothing offends him more than to be told that he is drunk. The humor may change with or without external motive; occasionally sad ideas involuntarily arise in his mind, and he begins to weep bitterly; sometimes he becomes tender and sentimental; sometimes the impulse to increased evolution of force urges him to senseless dangerous acts, to strike all around him, and he becomes slightly delirious. While in this state, a strong mental impression has sometimes such an effect upon him that he immediately becomes sensible, and the intoxication is suddenly cut short.

Afterwards still greater incoherence ensues. The drunkard has his hallucinations and illusions; he mechanically repeats what he has already said, his memory fails, and he becomes quite incapable of calling forth new series of ideas; in short, he falls into a state of dementia. Now presenting a striking analogy to the commencement of general paralysis, the speech falters, the movements of the tongue are irregular, the voluntary muscles lose their energy, the legs are no longer able to carry the body, and the individual falls into a state of powerlessness resembling the adynamic condition of the nervous system in typhus fever, or general paralysis with dementia.

The phenomena in insanity pursue, on the whole, the same course, but proceed more slowly. From a preliminary state of exaltation of the sensations and emotions, of the intelligence and of the will, the insane man gradually, as the cerebral disease progresses, falls into a condition of mental weakness, with loss of command over the faculty of speech and all voluntary movements.

Example XXXVII.—*Cerebral congestion; melancholy; monomania terminating in dementia.*—O—, an officer, enjoying habitual good health, and a strong constitution, had in his youth indulged in a multitude of excesses, which had not been followed by any appreciable bad consequence. He was irritable, violent, flighty, and so unstable in his talk, that often, in telling a story, he would pass from one to another without finishing any. For a long time he lived carelessly in that fashion; and then dark, hypochondriacal ideas gradually took possession of him. He suffered from constipation and internal hæmorrhoids. He was always dejected, and nothing could distract him. In a fall which he had from his horse, he received a severe contusion on the head and on the leg, and was obliged for three months to maintain a horizontal position. The congestion of the head, combined with the hæmorrhoidal affection, now increased to such a degree, that he experienced frequent attacks of vertigo and confusion, and could only with great difficulty perform the duties of his office. His pulse was full and slow; his belly distended; his countenance flushed. He had violent headaches and lumbar pains; had a constant feeling of tiredness; micturition was painful, and the bowels constipated. At the same time, he was in a constant state of mental anxiety. He often clasped his hands, as if he were the victim of the most profound despair. He refused at times to eat or drink, and constantly dreaded that for his neglect of military duty and for his crimes (purely imaginary) he would be degraded and prosecuted criminally, etc. At the end of two months he felt improved, and in two months more was completely restored.

But when his physician saw him again in the commencement of November, he found him in an agitated condition, occupying a well-furnished apartment. He observed in him at the same time an extraordinary flow of language, and great agitation of the whole body. Already on the following morning the monomaniac exaltation had reached a very considerable height. He got ready to visit the daughter of a superior officer, whom he was but slightly acquainted with, and whose hand he was about to ask. He had already bought a carriage and horse for the purpose of making a long journey with this lady through Europe. He declared himself to be of noble blood, and announced that his promotion was to be very rapid. His happiness was at the highest pitch, and he wished to share it with the whole world. Checked in his desires, he fell into a fit of frenzy.

Towards the end of November he entered Siegburg. The pupils were somewhat contracted; the hæmorrhoidal vessels were swollen; he had pains in the joints; there was a determination of blood to the head; the pulse was rapid. He was very irritable, and easily became enraged. He imagined that he possessed a considerable fortune, and was of lofty station; he believed himself endowed with supernatural power, etc. Every minute he distributes the largest sums of money, one hundred and twenty millions of louis-d'or; afterwards he says that he is God the Father; but if any one asked who his father was, he replied that he was a judge in the court of exchequer; and it was in vain that one tried to show him that what he said was absurd and impossible. At another time he said that he had been in heaven, and that he saw an exceedingly beautiful Venus; the following day he said that he found himself in the midst of several hundreds of Venuses. He wished to increase all the rooms of the asylum by means of gas, and to give them considerable proportions. He wished to increase men in size, and to make them giants. He wished to raise the dead; and especially he wished to transport thousands of regiments in the air by millions of balloons, etc. Ten months after his admission, the attacks of vertigo returned, and by degrees symptoms of general paralysis with increasing dementia developed themselves; apoplectiform attacks; death. (Jacobi, 'Beobachtungen,' etc., i., 1830, p. 372.)

Example XXXVIII.—*Monomania terminating in dementia.*—J. U—, æt. 44, formerly an officer, manifested already for a lengthened period a certain hastiness in his acts and movements. He was restless and irritable. In the winter of 1824, even when he still punctually attended to his business, he began to seclude himself more in his chamber, which he had adorned in a somewhat fantastic manner, and read a book of very fine type by the light of a large lamp, and with a powerful magnifying glass. In spring, symptoms of emotional excitement were already manifest. In July, there appeared ideas of the possession of an immense fortune and of an elevated position. Soon he believed himself to
Prince of Neuchâtel; and at the same time he thought himself a great

and spent the entire day in designing and coloring landscapes, as children of five or six years do, and showed them to everybody as chefs-d'œuvre.

In a few days he was admitted into Siegburg. The pupils were contracted. He had, at the root of the nose, a deep scar, the result of a wound which he had received at the age of twenty-five by falling from a carriage. His speech was hesitating and fast. He had several stools per day. The pulse was soft between 95 and 100. Trembling in the limbs; in the evening a kind of epileptic attack, followed by great excitement; palpitation of the heart; oppression; the subcutaneous veins were greatly swollen (bloodletting).

The following morning he was calm, very happy, walking continually from one side to the other. Later, great agitation. The patient washed his head with his urine, saying, by way of excuse, that it was the fashion of the Hottentots. Often he requested some one to get ready his carriage and saddle his horse, and beat his keeper because he refused to obey him. Sometimes he cried and shouted when hindered from indulging in his insane practices. The countenance was pale; the look fixed; the head hot and flushed. He slept a little at night (baths, tartar emetic, bleeding, seclusion, moderate diet, tincture of digitalis; later, leeches and calomel). Sometimes the patient rubbed his head with his excrement. He collected pebbles, to which he attached great value, saying that they were diamonds. He said that he was going to Mexico with a great retinue, because he was appointed ambassador, etc.

Gradually he became more calm, the pulse slower, the temperature of the body normal. An abscess found on the hip, which soon healed. He asked why he had been brought to Siegburg, and could not recollect any circumstance either of his journey or of his admission. He said that his daughter, eighteen years of age, was to marry the son of the first banker in the country; and when he was made to confess that his daughter was only four years of age and her betrothed five, he did not seem greatly surprised at it. He wrote home that his wife, his brother-in-law and the relations of his wife had been carried off to hell by the devil; that God had offered him a high position in London; that he had forwarded his watch and his uniform to Mexico, etc.

Afterwards he began to say that he was the Prince of Neuchâtel, and that he was about to have conferred upon him the order of the Holy Spirit. When I tried to show him the absurdity of his remarks, he took no heed and continued his talk. He one day secretly wrote to his agent, begging him to say if it were not true that he was Prince of Neuchâtel, and to forward to him the newspaper containing the account of his nomination. At the same time, he charged his friend to buy for him a new house at 75,000 florins, etc.

After many alternations of calm and rationality, with new manifestations of monomania, the patient, under the employment of digitalis, bleeding, etc., remained for six months without showing any appreciable symptoms of insanity. But soon he fell into a state of intellectual weakness and confusion of thought, and eight days after his dismissal he was brought back again, and the malady assumed the very same character as formerly. He was afterwards removed to an institution for chronic cases. (Jacobi, 'Beobachtungen,' etc., i., 1830, p. 295.)

EXAMPLE XXXIX.—*Melancholia; an act of violence in consequence of melancholic delirious conceptions; afterwards monomania.*—M. A—, æt. 30, of a very lively disposition; very gay; had always had his own will from the earliest years. He is sensitive to any lack of respect shown in company, and has the ambition to pass for a person of high importance. He likes violent exercise, such as the chase and fencing. He is vexed when he cannot exhibit a great show. From his birth to his fifteenth year he was subject to convulsions. At six years, he had a sharp inflammation of the brain, which was cured at the end of ten days; at twelve, he had inguinal hernia; later, he had inflammation of the throat with delirium. During his infancy he was often exposed to alarming incidents, living at that time in midst of the events of La Vendée. Since that time M. A— never ceased to be subject to panics of fear. Arbitrary and violent acts exercised towards him in time of trouble contributed to fortify his tendency to alarm. Nevertheless, his constitution got stronger at the time of puberty.

A—, after having fatigued himself with reading, is seized by a love of study, and is convinced that an attempt is about to be made upon his life. Already he feels the terrible effects of poison. He dreads all who approach him, except his parents, who are condemned to suffer the same fate with himself. He believes he sees and hears people armed with poignards and air-guns, which have been distributed for the purpose of killing him. If he walks in the garden, he comes back immediately, saying that he heard a bullet whistle past his ear. Sometimes he indulges in excessive laughter, and, when asked why, he answers that he hears sounds out of which he makes words that excite his laughter. He would fain persuade those around that they hear the same sounds as he does. He is conscious that he is reckoned mad; he hears every instant some one crying near him, "Madman! madman!" He often asks his parents whether his eyes are not fixed or haggard. Often, after a meal, he raves and feels himself oppressed. While in an inn at D—, a barber who came to shave him bent down to gather something. Without any previous altercation, A— fired a pistol at him and fractured his arm. Everything seemed to show that he mistook the unfortunate man for an assassin. After that fit of madness, A— remained five days without drinking, eating, or going to bed. After this, he recovered his sleep. A— is more sane and calm; he eats, although always possessed by fears.

He was now put under my charge. The countenance of the patient is extremely changeful and animated; his bearing proud and haughty. During the first days he refuses every kind of food. He will not have his beard trimmed. He does not sleep. The bowels, in spite of tepid baths, continued for some length of time, remain constipated.

A— pretends to be the first man of genius in the world, and attempts are made on his life through fear that he may become Lord of the universe. He is Apollo, Cæsar. In virtue of his twofold title, he expects and requires all the world to obey him. He is ashamed that the loftiest reason should be so confounded with insanity. A— writes to all the men who occupy the highest positions, even to the king himself. Every moment he expects orders to set him at liberty. He threatens me with all the weight of his authority, the moment he shall be at liberty. Meanwhile he asks for an advocate and a sheriff's officer. He alone is master; no one has any authority over him. He answers disdainfully questions addressed to him; very often he does not deign to answer at all.

It is quite impossible to persuade this patient that he is the sport of his own disordered fancy, and that his condition demands medical treatment. People wish, he says, to turn his head with their remedies; but it is of no use, they will not succeed. Gentleness and persuasion are powerless. When it is needful that he should bathe or have a blister applied, it can only be done by a great show of force. Many times the patient is calm; he talks well, is amiable, plays at several sports, and manifests no symptoms of insanity; the functions of the organism present no disorder. (Esquirol, 'Geisteskrankheiten,' von Bernhardt, ii., p. 8.)

EXAMPLE XL.—*Description given by a monomaniac of his condition.* (*Exalted emotions of various kinds excite varying ideas of illustrious personalities.*)—A poor clergyman, whom the too rigorous observance of his vows had rendered insane, related his history in the following manner:—"Having gone to a house where I was called on some work of benevolence, at the entrance of the chamber into which I was introduced, in glancing towards two women, they made an impression upon my sight and imagination so lively, that they seemed to me to have been illumined as if they had been electrified. Ignorant of the cause of so singular a phenomenon, I attributed it to satanic agency, and left. When I had got out of the house and away from the objects which had so strongly affected me, I became calm; but during the day, having encountered other women, I had the same distraction and the same illusion. The following day, being on a journey, it seemed to me several times that the carriage in which I was seated was about to be overturned, which caused me to cry to the people in charge of it to hold it up. But the false alarms causing them to laugh, I knew too well what *that* meant. There was, nevertheless, a disorder and derangement; but my error lay in attributing this derangement to external objects, whereas it was in the organs, and in the confusion of sense occasioned by my having never read, seen, or experienced any similar circumstance. On approaching a little town which lay on our route, and having seen several women, they caused me the same trouble and the same illusions as those whom I had seen in the town. Arrived at the inn, I had dinner. The bread and wine, as well as everything around, seemed confused and about to be overturned. Then, persuaded that a satanic power accompanied me everywhere, I left the inn hurriedly, telling the innkeeper at the same time that I thought he had a hand in it, and I entered the carriage again. There, fixing my attention, as far as the agitation of fancy and feeling would allow, on my adventures of the previous evening and of to-day, I was confirmed in the opinion by the fables of Ribadeneyra, which represent the hermits as continually besieged by demons. The words of St. Paul, where he says that it is not only against flesh and blood that we have to fight, but against spiritual powers as well, could not escape me, and, arguing from that, I recognized no

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other cause of my trouble and illusions except the possession of a demon, and I resolved in consequence to make war against him by fasting, prayer, and exorcism. . . .

"My activity having been changed into warlike fury, the image and remembrance of those warriors whose history and character had most strongly impressed me in my childhood presented themselves to me. Then, my imagination transporting me into all the combats and assaults of which I had read the history, I wished to represent these various characters. I tried those of Alexander, of Achilles, and of Henry IV.; and with the first, to whom I likened myself so far as to believe that I possessed his appearance, his name, and to be himself, I conquered at Arbela; I laid siege to Tyre, and carried its ramparts by assault. While I represented the character of Alexander, the image of the Tyrians whom the conqueror caused to be suspended on crosses along the bank of the sea came to my imagination. Seized with indignation and horror at that spectacle, I detested the character of the Macedonian hero, and I no longer desired to be that monster: but fixing my attention upon the sad victims of his cruelty, I entered into the feelings of the unfortunate men, and was as sad because of them as if they had been beside me. During a second attack of warlike fury, it took my fancy to assume the character of Achilles. I fancied myself binding on his armor; I assumed his voice and courage; I addressed to the Trojans words of insult and defiance. Then driving before me, overthrowing and putting to flight the battalions, as it seemed to me, I found myself, of a sudden, at the gates of the palace of Priam. Then, by the confusion and wandering of an imagination which produced images, the characters of which were dim and badly defined, passing rapidly from the character of Achilles to that of Pyrrhus, or rather, confounding the person of the father with that of the son, and strongly impressed by the picture which Virgil makes of the latter, believing myself to be the hero, I got hold of the four pillars of my bed, and I threw them vigorously against the door of my room, which I dragged from its hinges and carried to a distance of four paces off. Transported with joy, excited by the shock and by the crash, I shouted, 'Troy is fallen! the palace of Priam is no more!'

"My parents, who knew nothing of what ailed me, followed the course of binding my body and shackling my hands. Good God! what sufferings I endured! What a resolution was accomplished all at once in my imagination! Fallen from the high degree of fortune to which I had raised myself—downcast, overwhelmed—I looked upon my chains and my prison with horror and trembling, and I felt a burden of the most terrible despair. Having fallen asleep, my imagination was assailed by the most fearful images. I thought I saw Ancient Rome rising from beneath its ruins, opening its tombs, and presenting to my eyes the skeletons of the most famous warriors invested in armor, the shape, the variety, the antiquity, and the rust of which constituted a horrible sight. That spectacle impressed my imagination so strongly, that I remained for a long time without being able to fix my attention to any object or piece of iron without extreme horror, which, passing into my very senses, affected my sense of smell with a sort of stench of iron and brass—a disagreeable odor which troubled me for many days. After that, my imagination got the better of me, and, causing me to traverse the heaps of ruin, which appeared to crumble under my feet and to threaten my head, it led me to the gates of the temple of the god of war. I thought I saw these gates open, and heard them grind upon their hinges with a horrible noise. I saw the god in midst of his temple, and, by a cruel trick of imagination, I believed myself a monster dripping with blood and carnage, and laden with chains. The state I was in, bound and in irons, favored that illusion, perhaps caused it to spring up. I imputed this frightful treatment to the inhumanity which I fancied to have been exhibited towards the person of Hector. Nevertheless, a moment afterwards, by a return of that reflective power of which I seemed so little capable, sounding my feelings and finding them completely opposed to this feature of inhumanity, I disavowed and abhorred the cruelty of Achilles, and passing immediately to feelings of the tenderest pity and compassion, I deplored the fate of the Trojan hero. I cried, or believed myself to cry, 'Oh! Hector! dear Hector! why may I not collect thy scattered limbs, to bathe them, to warm them with my tears, and to restore them to life!' As I spoke these words, I shed, in reality, a flood of tears.

"The feeling of these gentle passions brought me back to peace and tranquillity, which induced my parents to restore me to liberty. I found nothing so delicious as these first moments. It seemed to me that all nature, formerly a captive, had bursts its bonds, and enjoyed with me the charms and advantages of liberty.

I took the character of a peaceful king; I fancied that I fostered and exercised in my imaginary dominion all the arts, all the sciences—painting, sculpture, architecture, geometry, etc. I drew, I made plans of apartments, which greatly amused me: I had so correct an eye, and so firm a hand, that, without any other instruments than were at hand, I traced images on the ground or on the partitions of my room with extraordinary accuracy. My parents and other simple people, surprised at seeing me express in such a happy way several features of talent which they knew I never before exhibited, imagined there was something supernatural in it.

"The disposition which possessed me gave to my senses a quietness, and to my intelligence a penetration, and to my soul a grandeur and an elevation, which made me an extraordinary man. I seemed to read the heart of people who approached me; I unfolded their character with astonishing sagacity, and, uninfluenced by any consideration, I described it with justice and precision. This gave occasion to a priest, who came to see me sometimes in my illness, to tell my parents quite seriously that I was possessed by the spirit of Pytho, the same that St. Paul drove from the spirit of a girl, and mention of which is made in the Acts of the Apostles.

"It may, perhaps, surprise people that I have been able to remember so many things and circumstances: but my imagination was so active, that every object impressed itself there, or rather engraved itself in characters of fire; and many things which formerly only touched it slightly when I was in health, have since that time become much more actual." (Leuret, 'Fragmens,' etc., Paris, 1834, p. 282.)

EXAMPLE XLI.—*Attacks of monomia, of the nature of exaggeration of the sexual instinct; rational self-defence of the patient. (Folie raisonnante, with a monomaniacal tinge.)*—A certain D— was arrested several times in Paris, and placed on eight different occasions in an asylum, and always for the same reason. He wrote to ladies in the highest society obscene letters; placed himself in their path, or called at their houses. He addressed to Madame Bonaparte, to a Madlle. Beauharnais, and to a multitude of duchesses, princesses, and ladies at court, letters written in a style of revolting obscenity, which he named heroic poems. His manner of conversation was otherwise stamped with such calmness, and had such an appearance of reason, that people hesitated several times to call him mad. Nevertheless, the reality of his insanity was established in a report made by Marc, Esquirol, and Ferrus. Here is the requisition which he wrote one day to obtain his liberty:

"Five weeks ago I was arbitrarily arrested, and I am still detained in the prison de la Force, in spite of a scandalous violation of right towards an honorable man, well known by his loyalty and imperturbable reason, and for his irreproachable conduct in all respects. I was walking on the Tuesday alone, between two and three o'clock, in the Champs-Elysées, when, by a singular fatality, Madame —— came walking herself—a circumstance which almost never happens, I believe. She was accompanied only by an equerry, an officer, and a lady. Hardly had I seen her than I held myself at a respectful distance in the cross-walks of the great avenue where she was. Thus I was always at a distance of more than fifty paces during her promenade, which lasted about a quarter of an hour, although the public did not seem at all to importune her in surrounding her during her walk, or in gathering round her carriage, when she mounted at the extremity of the Champs-Elysées, on the side of the Place Louis XV. As for myself, at that instant I was more than a hundred paces off.

"How greatly was I astonished to see the first equerry forbear getting into the carriage to come to me with the officer—to me, who was alone, solitary, and far from help! I could not believe that it was to lay wait for me on the public road. Nevertheless, it was so. He accosted me, and holding in his hand a paper which resembled a letter still sealed, he accused me of having sent it, at the moment, and in the crowd formed before the carriage of Madame ——, adding that that letter was libellous, and signed by my hand. I answered that I did not know what he meant, and that I took M. the officer to witness that I had not been in the group, and that I had never sent any letter or paper, as he affirmed. Then I told him that I considered him a slanderer. Notwithstanding, he summoned the officer to arrest me. He at first refused, and it was only after a dispute that he yielded to his solicitations. I believed I ought not to resist so arbitrary and scandalous an arrest, and made it a duty to submit with confidence to the loyalty of government; all the more, that the loyalty of my well-known character ought always to deliver me from any kind of plot formed against me."

This assurance, adds Marc, seems to result either from a real forgetfulness of the attacks of delirium which cause M. D— to take pen in hand by inflaming his amatory enthusiasm, or from a system of denial which he regards as useful to his interests. (Marc, "Die Geisteskrankheiten,' etc., von Ideler, i., p. 28.)

CHAPTER III.

THE STATES OF MENTAL WEAKNESS.

§ 145. UNDER this section are comprehended a series of morbid states of mind which, although presenting great differences in their details, collectively form a natural group. They all closely resemble each other in the circumstance that (with a few exceptions to be afterwards mentioned) they do not constitute primary, but consecutive forms of insanity, —that they continue as remnants and residues of the forms which we have already been considering when these are not cured. Further they are allied in this, that the fundamental mental affection no longer depends in them, as in melancholia and mania, upon ruling emotions which secondarily involve the intellect, but the disorder of the intelligence constitutes in itself the fundamental anomaly, the emotions being suppressed or entirely wanting (§ 29). This disorder of the intelligence either presents the decided character of weakness, which in dementia proper is manifested in the sluggishness of thought, the want of normal reproduction of ideas (loss of memory) and their healthy association—it may proceed to total abolition of all the mental faculties, with which there is also combined weakness of the emotions and will, want of energy or complete loss of volition, and dulness of the emotions, bluntness of the moral nature arising from the absence or superficiality of reactionary power,—or the mental weakness is in a measure concealed by the predominance of certain delirious conceptions, whose obstinate persistence is significant of all that remains of mental power, and behind which all consciousness is but an empty void. Out of this vacancy no ideas can any longer arise which might counteract and overthrow the delusion; although the patient is no longer governed by a dominant sentiment, still the delirium remains persistent, owing to vacuity of thought, which ordinarily does not merely affect the limited sphere of the fixed delirious conceptions, but is only the partial appearance of a general diminution and destruction of all the mental processes. Thus we consider that *partial dementia* ought to be comprehended under the states of mental weakness.

In these states we no longer recognize the changeability of the forms which we have hitherto been considering, nor that activity of the morbid process in which the play of active, healthy mental function, mental elaboration and combination, is so plainly recognizable (particularly according to the law of causality). Here the false ideas, in so far as they are not taken over from a former period, depend in great part rather on incoherence and weakness of thought, or on partial dementia, upon hallucinations not depending on the emotions and on an extension, constantly more penetrating, of former delirious ideas relating to the entire sphere of perception. All these morbid states (again with a few exceptions), when not cut short by death, are very chronic in their course, and generally are capable only of one kind of change or modification—namely, increase of the mental weakness. Nevertheless, they often remain quite stationary for long series of years; they no longer admit of complete recovery.

My having, in the first edition of this work, classed partial dementia with the states of mental weakness, has caused a great deal of controversy. But, in fact, it can be placed nowhere else. In complete dementia we have, along with delirious conceptions which have become as it were stereotyped, a decided diminution of the moral powers, a mental decrepitude, a wreck after the subsided storm. There exists, it is true, between this terminal point and the primary stages, in many patients a long period of transition, in which there still plays around several groups of delirious conceptions remaining over from these primary stages, an active mental process. In this the delirium becomes in part modified quite involuntarily, in part elaborated and systematized (§ 44). When this is completely finished, the quite stationary period commences, in which the delirium consists only in a repetition of the fixed residuary ideas. Those states of transition which still permit a certain change of the morbid mental phenomena, and which are numerously represented in every asylum, are, in regard to classification, a source of embarrassment to the beginner. He may, without hesitation, keep to the principal classes which have been here established, but must consider that sometimes a long period of observation is necessary to determine in a given case how much is still activity and progress, and how much is *simply* residue. Neumann ('Lehrb. d. Psychiatrie,' 1859, p. 70) calls what we designate dementia, "recovery with defect." How far "*recovery*" may be spoken of, or rather cannot be spoken of, is clear. As to the "*defect*," it essentially expresses the same view which prompted me to class dementia amongst the states of mental weakness.

§ 146. The states of mental weakness comprehend two great groups—Chronic Mania and Dementia. In regard to the first, we refer the reader to the description farther on. In the form of dementia we distinguish two divisions—the one with incoherence of the ideas, but with considerable, although merely superficial, activity of perception, generally with a slight degree of outward agitation (démence agitée); the other with extreme sluggishness of perception, even to complete abolition of it, and with external apathetic calm (démence apathique). In this division we only consider that form of dementia which is acquired—that, namely, which occurs in individuals who have been formerly mentally healthy. We shall devote a special chapter to that form which is congenital, or which arises in the early years of childhood—the various degrees of idiocy.

This acquired dementia, considered as a special form of insanity, may of course arise primarily—that is, without having been preceded by another form of mental disease, or other cerebral disease of a different nature, as in the case of the mental weakness of advanced life or premature decrepitude, primary atrophy of the brain, intracranial tumors, etc. As to the cases described by many authors as acute, curable, primary dementia, the great majority of them certainly belong to melancholia with stupor, in the description of which we have already called attention to the readiness with which it may be confounded with actual mental weakness, and to the distinctive signs of both forms. Nevertheless, it cannot be doubted that there exist intermediate states between melancholic stupor and actual dementia, and also decided cases of primary, acute, and curable dementia; in proof of which we shall cite an interesting example of a case in which the dementia was probably owing to œdema of the brain from pressure on the cervical veins.

EXAMPLE XLII.—*State of dementia of several weeks' duration, and without subsequent recollection of it, caused by an attempt at strangulation.*—A prisoner, æt. 25, strong and healthy, hanged himself. Almost immediately after the cutting down of the body, it showed signs of life; consciousness returned. The patient gave, apparently quite calmly and sensibly, the history of his life and his motive for the deed (weariness of life). On the following day he was tranquil and spoke little; on the third day he spoke none. The countenance was fixed, the eyes rolling and injected; the temporal and masseter muscles and those of the eyes were convulsed; the face immovable and lifeless, like that of a statue. No sensorial impressions appeared to be perceived, but a very loud sound caused slight contractions of the facial muscles; he went about and ate without expressing desire or sensation. After three weeks had elapsed, the patient was taken to an asylum; and after a few more weeks he awakened. He remembered perfectly well the time and the circumstances which had preceded the hanging until the onset of loss of consciousness, and described the violent struggle in his mind between the resolve and the fulfilment of the deed, and the sensations in the moment of hanging—ringing of the ears and stars in the eyes. From this time to the hour of his awaking in the asylum, all recollection of his personal existence was wanting; even the animation after the hanging and the temporary possession of consciousness were quite unknown to him. The second awaking took place suddenly: one day, in the court, the idea of the buildings around was awakened in him, and this called forth remembrances of other similar objects. From that hour the mental functions and the general health rapidly became re-established. (Meding, in Siebenhaar, 'Magazin für die Staatsarzneikunde,' i, 1842.)

But far more frequently acquired dementia originates *consecutively*, that is, after the symptoms of another severe cerebral disease (epilepsy, acute meningitis, typhoid cerebral affections, etc.), and especially when other forms of insanity have preceded it. It constitutes then the sad end of all mental diseases which remain uncured—melancholia, mania, and monomania. What is very remarkable, senile dementia even is not unfrequently preceded by a period of exaltation—a short maniacal stage, characterized by great psychical irritability, a newly awakened tendency to activity, reappearance of the sexual desires (wishing to marry, etc.), and a craving for alcoholic drinks: this is then followed either by rapid psychical collapse, or short periods of exaltation alternate several times with the increasing mental weakness. During convalescence also, especially from violent mania, there not unfrequently occurs a condition of profound mental weakness: this state bears the same relation to true dementia that great and long-continued fatigue does to actual paralysis.

It is not at all unusual, although hitherto it has been very little attended to, to observe a mental state characterized by moderate weakness occasionally ensue after apparent recovery from other forms, and to remain persistent. In individuals who have recovered in this way, the sentiments regain their former calm; they can also again think and judge in a formally correct manner—the memory is little or not at all disturbed—their conversation is quite coherent and rational. But they are no longer the same persons; it seems as if their mental individuality had been deprived of its best and most valuable qualities, the more delicate moral and æsthetic sentiments, interest in the higher mental aims of life, which form the beauty and the nobleness of human nature. Their thoughts and efforts move henceforth within a limited circle, in the sphere of the immediate wants and requirements; and while they conduct themselves rationally, perhaps with a degree of activity in this circle, all the spiritual and ideal concerns of life, all consideration or desire of them, are foreign to them. These persons might be regarded as perfectly sane—since there are many individuals who are all along of this disposition—if we had not been acquainted with their former life, and if, in many cases, in the physiognomy and whole demeanor, a marked change to idiotic, even animal-like expressions, was not recognized. They are further capable of simple mechanical employments, in the performance of which they show care and intelligence; for themselves they desire nothing more than suffices to satisfy simple material wants. Should such individuals be permitted to leave the asylum and return to ordinary life, they run a great risk of new and severe attacks of insanity, or of gradually passing into confirmed mental weakness. In the asylum they often for years enjoy a life of relative health, calm, and useful employment.

Such states may be regarded as the mildest forms of dementia. In all *higher degrees* the patient ceases to present any appearances of convalescence, and the increasing mental dulness is not restricted to the finer and more delicate faculties. Sometimes the whole mental life again assumes the character it had in childhood, in which most strikingly the capacity of abstract thought is lost; in many forms, again, a certain superfical and incoherent activity and mobility of thought still remains. The absence of all serious thought—because comparatively few and limited masses of ideas are present—the pleasure in trifles and toys which afford material for superficial fantasy, and the unmasked and unrestrained manifestation of the disposition actually present (laughing, jumping, weeping) observed in many of these states, cause them closely to resemble the state of childhood. Many of these patients also have to be treated and guided like helpless children; they may, however, by kindness or severity be kept at light mechanical employments, and by methodical regulation and care kept from manifesting the incoherence and confusion of their ideas, and often for a long time preserved from more profound mental decay.

These cases of chronic mania and dementia constitute the vast majority of the insane, and institutions devoted to chronic cases are almost exclusively inhabited by them. It would be well if our psychological knowledge of these states were only in a degree somewhat approaching to the rich opportunities afforded to us of studying them! The individual varieties are here still greater than in the forms we have already considered; they can neither be enumerated nor described. We must rest satisfied with stating and describing several principal types.

SECTION I.—*Chronic Mania* (*Die Verrücktheit; La Folie systématisée*).

§ 147. Under this term are comprehended those secondary states of insanity in which, although the original morbid state of the sentiments has considerably diminished or even entirely disappeared, the individual does not recover, but remains affected in such a manner that the delirium is now most strikingly exhibited in certain fixed delirious conceptions which are cherished with especial preference and constantly repeated—always, therefore, a secondary disease developed out of melancholia or mania. We consider the term *monomania* (§ 45) introduced by Esquirol, but employed by him in an essentially different sense, especially adapted designate these states, provided it could always be restricted to a special form of mental disease. The study of the psychical phenomena in these patients seems to us to have been hitherto much neglected, and the true nature of the disease to have been observed and falsified by anecdotal conceptions. We shall attempt to describe what we have learned from actual observation.

Anomalies of Self-consciousness, the Desires and the Will.—The transition of melancholia and mania with delirious conceptions to these states always takes place gradually. The state of negative or affirmative emotion resulting from these conditions often disappears very slowly, oscillating for several years: a chronic state of modified melancholia or maniacal excitement, however, often remains long persistent; after a time this also disappears, leaving behind it certain delirious conceptions. According as the emotional excitement becomes weaker, *apparent* reflection gradually returns; in place of incoherence of thought, mental tension or convulsive shock and suppressed volition, there again enters a more regular flow of psychical activity. Gradually there is re-established an entire or partial external equilibrium, as with the disapperance of the morbid emotions the mind becomes calm.

But this is no longer the equilibrium of the former healthy life. Gradually a new intermediate state of the psychical tonicity, new emotions and a new character are developed: the patients are not now what they formerly were; with the addition of one or two erroneous opinions or a few delirious conceptions, they are thoroughly changed. This radical change, which is naturally most distinctly manifested where the general melancholia and the maniacal exaltation have now *entirely* disappeared, consists essentially in dulness and weakness of all psychical reaction—in an absence of sentiment, indifference, and diminished energy of the will. None of these patients are any longer capable of the same interest in the external world, the same love and the same hate, as formerly. Friends and relatives may die, that which was formerly most dear to them may go to wreck, the most joyful event may happen in their family—they will experience at most only a very superficial disagreeable or agreeable excitement, or they will quickly turn from the subject as from some unwelcome disturbance, or they may not react at all. Only on one point can the psychical tone still be readily ascertained and altered—can emotions and reactions of the will be rapidly called forth: if we touch upon the fixed idea, if we oppose his statements by arguments or his projects by force, the patient will immediately become angry and violent: if we encourage the delusion, he will at once rejoice.

In certain cases which may become the subjects of medico-legal inquiry, the total dulness of sentiment and thereby *perverted* reaction, forms one of the most prominent elements of these conditions; they present a species of quite chronic fixed moral insanity, which might be designated *emotional insanity*. The principal though by no means the only examples of this condition are to be found amongst drunkards who have become insane (see § 41).

The emotional dulness of the chronic maniac is very characteristically manifested in his relations to the asylum. The individuals are, almost without exception, quite contented with their lot: they never form plots (which, owing to their number, they could easily do), a single attendant leads them like a flock of sheep; should one of them suffer punishment or be removed, the circumstance does not at all affect the others.

§ 148. Emotional states, therefore, are still possible, but only one group of ideas is able to provoke them. The ruling disposition is, indeed, on the whole, one which corresponds to the delirious idea, although in a weaker degree; and in the higher grades of partial dementia there often prevails so entire an indifference, that, without any trace of emotion, the patient incessantly declares himself to be the ruler of the world, the possessor of all in heaven and earth, God himself, etc. The psychical rereaction on all excitation other than that which is directly in connection with the delusion is generally very feeble, because, on the one hand, perception, in so far as it is not related to the delusion, has considerably lost its energy and become blunted; and, on the other hand, because frequently many masses of ideas which belong to the former life of the patient are now completely dissipated, forgotten, or no longer recognized by him as his own. It is the same circumstance which in the sphere of the intelligence does not permit the patient to recognize the folly of his delusion. The relations are not like those of ordinary life, where a leading idea, an impelling thought, temporarily obscures and suppresses the other ideas. In health there is always the possibility of the contrasting ideas, doubt and hesitation, arising. But in chronic mania, although the patient is no longer in the state of emotional excitement which formerly rendered it impossible for him to recognize the error of his ideas—although he, indeed, sometimes reasons with formal correctness upon certain points—yet he is no longer capable of doubting the possibility of his delusion. That the fixed ideas cannot meet any disturbance in their course, is owing to the circumstance that no counterpoise, no inward opposition resists them; and this appears to depend quite as much upon a general weakening of the former intelligence, as upon the disappearance of certain series of healthy ideas. Thus, the cause of the impossibility of recognizing the delusion as such, and the general indifference and diminished psychical reaction, may both be founded upon the same psychical defects.

It is the same with the emotions and the will. So long as slight melancholia and emotional excitement remain, volition presents the general character of these states; and there are then observed, sometimes a one-sided persistence in a single negative direction (for example, a continual tendency deliberately to destroy inanimate objects—to tear the clothes, pieces of paper, etc.), sometimes a restless energy in the direction of the delirious conceptions, sometimes transient maniacal attacks. Afterwards, however, there also appears in the volition a mediate or higher degree of general weakness; some can continue the mechanical employments to which they were formerly accustomed, as, for example, Professor Titel, who believed himself to be the Emperor of Rome, and continued to read his course of lectures in the College; or they can pursue easy manual occupations: but there is no longer that desire for healthy activity, and even the acts corresponding to the delirious idea, as the writing of letters, issuing of proclamations, etc., gradually become less energetic and more superficial; while in the most confirmed states there only remains the most feeble employment—the amusing themselves with pebbles, rags, paper, etc.

All sorts of capricious desires, such as are also observed in the forms we have already studied, are particularly frequent in chronic mania, and become fixed habits. Some constantly seek to work amongst water, others would be always pulling off their boots, others manifest a special preference for certain places and corners where they may always be found: some will not speak; others scream, sing, declaim, or continually employ themselves in daubing the walls; some rejoice in decorating themselves with straw, rags, and trifles; others take delight in allowing their nails to grow long; while others again are always perpetrating malicious acts, making peculiar gestures, etc. These desires have often a peculiar, mysterious significance to the patient, or they proceed from certain frames of mind connected with the delusion; at other times they are purely automatic, the patient himself knows no cause for them, and is angry when questioned regarding them, in the same way as healthy persons are irritated when asked the reason of peculiar habits, such as chewing the nails or making unnecessary movements with the hands, etc.

§ 149. Amongst the *anomalies of thought* in chronic mania, we meet, in the first place, with a formal change—namely, a sometimes moderate, sometimes increased degree of weakness of thought, generally accompanied by loss (forgetfulness) of great series of ideas which formerly belonged to the individual in health. For these reasons, no clear apprehension, no healthy mental conception is now possible to the patient. Some may, indeed, carry on a pretty rational conversation, but generally it consists merely of current phrases; so soon as actual abstract thought is required, they show their incapacity to grasp the subject. Real acuteness never exists in chronic mania, unless, indeed, the occasional curious combinations of thought which, occurring abruptly and unexpectedly, and seem now and then somewhat surprising, be considered as such. Generally, the patient cannot fix in his mind, even in a slight degree, any idea which is not closely connected with the dominant delusion; he deviates from the subject, and generally reverts, in writing even more than in speaking, to that circle of ideas which to him is alone actual and real. In the more advanced degrees, this weakness of perception becomes actual incoherence—a casual rising of images and thoughts without sense or coherence, only loosely connected by the unity of the fixed ideas: with this chronic mania passes into dementia.

We have already seen, in a former chapter, how the separate delirious conceptions arise in melancholia and mania, and their subject-matter is there indicated. They always relate to the special personality of the patient, to his position in the world or relation to the Deity, although their subject-matter presents essential differences.

Sometimes they are exalted maniacal ideas of an active kind, relating to elevation of the subject and his domination over external things—God, one of the Holy Trinity, state reformers, kings, learned men, prophets, ambassadors from God, discoverers of perpetual motion, the mother of nature, one who has penetrated all mysteries and knows the elements of all things, etc.

Or the delirious conceptions relate to some affliction, to domination by external things. The patients believe that they are persecuted, surrounded by spies, tormented by secret enemies who employ electricity against them, tormented by freemasons, possessed of a devil, eternally damned, robbed of their most valued treasures, etc. Or they cherish fixed delirious conceptions regarding their own body; they are dead; their bones are made of glass, of butter; they harbor strange things in their body, etc.

From the different characters of these ideas we are enabled to distinguish chronic mania with active, exalted (§ 131) delirium, from the same with passive, depressed delirium.

The more limited the circle of these delirious conceptions, the more do they appear, on superficial consideration, to be simple and even inconsiderable errors of judgment. But how much do such errors, even in the most favorable case, differ from those mistakes which in the same proceed from deficient knowledge! A long series of psychical disorders must precede them; they are inwardly developed from states of emotion. The whole personality of the patient is identified with them; he can neither cast them from him by an act of will, nor rid himself of them by argument; and in order to the existence of the delirium in this mild form, not only must that long series of emotional states in which it grew have run their course, but there must also remain behind a deficiency of thought to insure its existence.

Above all, however, the partial delirium of dementia depends not so much on the circumstance that the false ideas of the patient are limited to one subject, as on this—that he always, by preference, *expresses* one sole and leading false idea which constantly pursues him. His morbid thought is much more extended: the delirium which has been developed in the practical sphere of the affective sentiments extends not only to the neighboring sphere of self-consciousnes, where it disturbs the proper estimate of the special personality and its relation to the world, but it also identifies itself with all the theoretical ideas of the patient and gradually falsifies all his thoughts. Then he involuntarily refers everything to the delirium; in its light everything is viewed; and thus he cannot fail, in the most favorable cases (for example, in simple hypochondriacal delirium), to have false notions and views of life which were formerly quite foreign to him. Where, however, there exist more serious false ideas concerning the special personality, all the patient's views in regard to the external world are totally perverted; he judges everything from a false position and from wrong premises; and where there is most form and logical order, the insanity proceeds frequently to a comprehensive and sometimes carefully concealed system of delusions, in which all the relations of human intercourse, all moral considerations—indeed, the whole internal and external organization of the universe—are mysteriously exprêssed. Sometimes ordinary language is not sufficient to express his thoughts, and he invents, at least to express the delirious ideas, a totally different language, which he declares to be the primitive language, the language of heaven, etc.; and the more the sensorial impressions are obscured by hallucinations, and the inward views become indistinct and displaced by confusion and weakness, the more do these states pass into the form of dementia.

The origin of these prominent delirious conceptions can always be traced to a stage of melancholia or mania, and often to special occurrences during these stages. Should the fixed idea consist in the delusion of being some illustrious personage, their behavior when opposed by the arguments of reason is very remarkable. Generally the patients can still give an account of their former life, sometimes they even admit that they have been insane (certainly, however, only from hearsay, and they then understand by it only the form of melancholia); often they narrate the more minute circumstances of their change (especially hallucinations), but generally they do so very indistinctly. They remark that in conversation persons oppose their fixed ideas, and generally they quietly, though unwillingly keep silence on the subject. Should actual arguments be brought to bear against them, they begin to scold and become violent, and the aggressor has generally lost their confidence for a long time. To some of these patients their former true personality appears dead; they speak of it as of a third person, and often only vague recollections of it penetrate the obscurity in which the old *ego* is involved.

From the foregoing, it will be seen how very numerons the intellectual disorders are in those patients, or rather how various are the states consequent upon maniacal and melancholic conditions, and comprehended under the name of chronic mania. New investigations may throw further light on this subject.

The following examples will still further aid in giving a correct idea of this form.

§ 150. *Hallucinations and illusions* of all the organs of sense are in no form of insanity so frequent as in chronic mania, and in many cases they nourish and maintain the delirium. Frequently the patient converses or quarrels continually with the voices which he hears, and falls into angry excitement; frequently he finds his whole happiness in a pleasing illusion of sight, like the demented mother whose darling long-lost child was represented to her by a broken jug clothed with rags, which she for many years cherished with the greatest tenderness.

The *movements*, the appearance, and the conduct of these patients always manifest, even in the mildest forms, a certain perversity and distortion. The physiognomy generally appears old and withered, and has an expression of stupidity or of the dominant delirious idea. Nearly all manifest certain peculiarities in their conduct: some gesticulate constantly, or move their hands and feet in a monotonous manner; others preserve an ecstatic stillness, in order to listen to their hallucinations; others walk up and down incessantly in a favorite place, like animals in a cage, and speak or hum words, rhymes, or melodies. Some always remain in the darkest corners they can find, turn their back to the passer-by and are irritated by every disturbance; others constantly employ themselves in collecting trifles of every description—rags, pebbles, shells, etc.—to which they attribute great value; while others, again, decorate themselves fantastically with everything they can lay their hands on.

Generally, with the cessation of the melancholic or maniacal state there occurs a marked increase in the size of the body and a state of robust physical health. Every asylum contains patients who live for many years in moderate health and attain a great age.

Intermissions or remissions never occur in these states, and all experience goes to show that complete recovery is impossible; but by the communications of Leuret it is placed beyond doubt that, by energetic methodical treatment, some of these patients can be made to suppress their delirium and lay aside their peculiar habits to such a degree that they may be rendered capable, to a considerable extent, of pursuing simple avocations. If these patients be left to themselves, they become more and more engrossed in their delirious conceptions; these gradually extend to wider ranges of thought, and the patients finally fall into complete or apathetic dementia.

EXAMPLE XLIII.—*Chronic mania and monomania.*—In 1824 there was a young man in the lunatic wards of the Charité at Berlin who had been there for about eight years. He was more the object of attention and care than of medical treatment; he walked about the corridors and in the rooms, appearing to take an interest in all that went on around him, but, to speak truly, occupying himself with nothing. He laughed and mocked at everything with great haughtiness; and if any one happened to ask him anything, he replied with great assurance, and with a perfectly self-satisfied air, because—and there lay the foundation of his insuperable egotism—he was all, knew all, possessed all, and could do all. No station was higher than his, no knowledge equalled his; his fortune was as great as his knowledge, and proportioned to the station which he believed himself to occupy. This assurance which he had of his greatness, his cleverness, and his power came out in all his acts and movements. A consummate actor would have had difficulty in expressing the magnificence and disdain manifested by this young man, simply clad in a blouse and seated on a wooden box. The fact is, that never had man profounder conviction of his own merits and greatness. According to information given, this unhappy young man, after an examination for which he had worked hard, and in which he had failed, became silent, sad, and fell at length into the state wherein we find him. In reality, it is often in this way we see fixed ideas appearing. The same thing is observable in the case of those who, by unhappy speculations, have fallen into the profoundest misery, and who, exhausted by intellectual work, can no longer engage in them; their intelligence is disturbed, and suddenly they present themselves to their friends destitute and speaking of their wealth.

By the side of this invalid whose portrait I have rapidly sketched, and who was well known to me, I have set another, lately come to the asylum, and respecting whom I shall say the little I know of him.

M. S—, aged about 30, in a good position in business which brought him in a great deal, of agreeable temper, but easily excited, addicted during several years to an irregular life, distracted by pleasures, often excited and enfeebled by alcoholic liquors, became demented. A long and uninterrupted series of pleasure of every kind seems to have induced the explosion of an old tendency to madness. To every question addressed to him he replied, "I am a colonel, adjutant-general;

I am a capital player at billiards, an extraordinarily expert horseman; lately, I got on horseback in the circus, and I distanced all others by the skill, strength, art, and marvellous elegance with which I managed the most restive horses. I am very rich; I invite you to come to my house—I want to have a little amusement. The man you have given me here, and whom you call a keeper, pleases me; he also saw me get on horseback in the circus," etc. I answered him, "To-morrow I will introduce you to a man who is here, who will certainly take an interest in you, and who may be useful to you." M. S— then said to me very quietly, "I shall be very glad; I like to have a great many friends, and I like, too, to be on good terms with everybody."

M. H— was standing in the corridor, supported on his wooden box, with a look of self-satisfaction, when I brought M. S— to him, saying, "Here is a gentleman whose acquaintance will perhaps interest you." M. H— approached M. S—, fixed his eyes on him, and having watched him some moments, threw his head backward, saying, "Who are you?" M. S—: "I am a colonel of His Imperial Majesty of Russia, and adjutant-general." M. H—: "It is not unpleasant for me to make your acquaintance. I shall take a great interest in you out of regard to your position, and you may be quite sure of my patronage, for I am a field-marshal, and during my leisure hours I occupy myself with the organization of the naval and military forces of Russia." M. S—, astonished at the unheard-of arrogance of his interlocutor, looked about him quite embarrassed, while M. H— looked at him with all possible dignity of manner, and, filled with the consciousness of his vast superiority, he said to him, "Have you still some other accomplishments which I might put to use?" "Yes, Mr. Marshal," replied M. S—, approaching M. H— with a kind of familiarity; "I am chief of the outriders; I am a horseman of great strength and an admirable . . ." Then M. H—, throwing himself back and assuming a still grander air, while he shot at him as disdainful a look as possible, "Vile *bateleur*," said he, "miserable ——, worthy of being in a madhouse!" and he withdrew haughtily. He assumed his ordinary position beside the wooden box, with a crushing look at M. S—, who was greatly frightened. I then led away M. S—, saying to him in a low voice, "How could you say such things to this gentleman?" M. S— replied, "I never did get on horseback, as I said just now, but I often thought how good it would be to be able to do it. I wish I could tell this gentleman that I did not get on horseback with the groom of the circus. Take me, I pray you, immediately to him." I replied, "You have got yourself into a terrible scrape with him. As you know quite well, you placed yourself in a bad position by saying such things. Don't try it again, for you see the contempt which that ill-advised banter has brought upon you." M. S—: "But I am colonel and adjutant-general all the same." "That is another matter," I replied, "and we shall talk about it afterwards; but, at present, you have forever forfeited the esteem of that man. Take care that the same thing does not happen in the case of other people." The keeper walked with M. S—, and told me afterwards that he had continued to talk with him of that affair. He said to me, that from that moment M. S— ceased to believe himself a groom, but he still believed himself to be a colonel. The patient, who was in that condition during the last four months, was quite cured in the course of several months which followed that meeting in which M. H— had so rudely shaken his insane notions, which were henceforth arrested in their further development. M. H— always shunned him, never spoke to him, and treated him with profound contempt. M. S— was always ashamed in his presence, as if he remembered the disdain which M. H— had manifested towards him at their first interview. It was only when quite cured that he got rid of the embarrassment which he experienced in presence of M. H—. When he was completely cured, and was about to quit the asylum, M. S— extended his hand to M. H—, for whom, since his restoration, he showed a real attachment; but he received him with the same contempt as formerly, more than ever persuaded of his influence, of his fortune, and of the immense distance which separated them. M. H— remained in the asylum—he was incurable; M. S—, on the contrary, owed his recovery, doubtless, to the meeting which he had with him after his arrival in the hospital. (Sinogowitz, 'Die Geistesstörungen,' etc., 1843, p. 22.)

EXAMPLE XLIV.—*Chronic mania of many years' standing; habits capricious, but intimately connected with the leading delusion.*—The woman B— was, when she came under my observation, about 65 years of age. So far as known, she had been an inmate of asylums since she was sixteen. In her deportment she constantly showed traces of superior training. I could never learn whether she had any relations still living; nobody visited her, and I had no other means of information. Her once fair and luxuriant hair was now nearly gray; her forehead wrinkled, her deeply-set blue eyes were very movable, and when excited they actually sparkled; her gait was generally slow, and she moved without definite direction—always as if looking for something, and in semicircles. She never greeted any one, nor acknowledged a salutation; it was only rarely that she, when saluted by any one not known to her, would look up, minutely examine the individual, then rapidly withdraw her eyes and occasionally murmur a few incomprehensible words. At other times she replied to all communications which were addressed to her with several severe words of reproach, which generally concluded by her withdrawing from all further communication, and pronouncing this judgment: "He shall be burned." If listened to, there would ensue a violent scene highly disturbing to those around her. Therefore, the old incurable patient was left to herself, and no attention paid to her harmless energy. When let alone, she offended no one, carefully avoided all contact, seemed occupied only with very urgent affairs, and from long custom joined in the ordinary household arrangements. She often wrote letters, which consisted entirely of capital letters; they were always written on large sheets of paper, and addressed to the most powerful monarchs in the world and their wives. She always accepted a few sheets of large paper and some pens with marks of gratitude, although she never expressed her thanks, and generally rapidly disappeared from the donor. From a number of her letters, I gathered, not without some trouble, the following regarding her ideas:—The old woman believed herself to be a queen, daughter of the sun, and near relative and friend of all monarchs. She hoped to be drawn in a coach of gold, drawn by six horses. Most of the letters were directed to the ruler of the Sublime Porte and his wife. The letters to the monarchs, which she wrote almost regularly three or four times a year (she also wrote to the judges of the earth and to the general executioner of the world), generally contained requests and special demands that those persons might be burned who had on several occasions, and perhaps intentionally, disturbed her in her employments. If the name and designation of such persons were unknown to her, she would give a description of them, according to their clothing and habits, so true that the persons meant could be easily recognized, in order that the high monarchs might commit no mistake. If any one were doomed by her to be burned in one of these letters, she repeated to him his judgment each time she saw or spoke to him: pardon need no more be expected. This patient was, as already mentioned, an accumulator of uncommon perseverance. Only on very cold and rainy days did she desist from collecting, but when the sun shone during the hours of recreation in the garden she was most active. Quite absorbed in her work, she collected small colored stones, dead brilliant beetles, flies, certain small leaves, twigs, colored feathers, rags, bright pieces of glass, etc. If she had made a large collection, when the recreation hour ended she cast radiant glances towards her pocket, and rapidly sought her room in order to conceal her treasure. With a certain cunning, and even with open resistance if hindered, she would attempt to withdraw herself from the next walking party, in order that she might, when possible, be alone in her room. In this solitude I found opportunity to observe her unnoticed, and cannot speak without emotion of what I saw. She opened a window on the sunny side of the apartment, and looked a few moments at the sun; then she drew from all her pockets and from the places of their concealment her treasures, spread them before her on the window, and viewed them for a time, in profound contemplation; she then tied these gaudy articles, fastened with green, yellow, red, and white threads, between the iron bars outside the window, so that they remained suspended in rows. When this bright array was finished, she opened the door opposite the window, which caused a draught. When, owing to this, the slightly fastened leaves, feathers, rags, etc., commenced to flutter, the old woman would look with joy expressed in her eyes alternately at them and at the sun, and weep for joy; she noiselessly moved backwards and forwards like to a child delighted with its toys. As the time advanced, she would hear the noise of the approach of her neighbors from the garden, and rapidly and carefully, disturbing nothing, pack up all; and when those who shared her apartment entered, no trace of them would be observed. As I, during my repeated observations, approached (she was so engrossed that she did not observe my approach) and quietly stood beside her, she bore my presence without scolding, and observed me with joy expressed in her eyes. Quietly I withdrew, and was afterwards several times enabled to witness the same scene, although I had already been doomed to be burned in her letters.

I directed that this unfortunate woman should not be annoyed during her hours of recreation; for no one has a right, without some good motive, to break upon the happiness of his neighbor. Accordingly, this old woman enjoyed in peace her small measure of happiness until her death, which occurred a few years afterwards. She was more than fifty years in asylums; her insanity had never been cured, but had often been aggravated by her quarrelsome neighbors.—(Sinogowitz, 'Die Geistesstörungen,' Berl., 1843, p. 35.)

EXAMPLE XLV.—*Chronic mania with the character of depression; hallucinations of hearing.*—One day I was accosted at the Salpêtrière by a woman I had never before seen. She had a quiet and timid air; she looked at me as if trembling, and did not speak. Her dress was simple and decent. I judged her about forty years of age, and afterwards discovered that this was indeed her age. I stood still near her, and she continued to look at me. Speedily I saw her face assume an expression successively of anxiety and terror; then she remained calm, and I would have said that she was listening, and soon again the movements of her features indicated agitation of mind. I walked a hundred paces witout saying a word, and without appearing to fix my attention on her. She followed me, and continued her quiet action. I stopped again, and regarded her attentively, without seeming to be the least curious. She did not discontinue her quiet conversation, for I saw that she talked with me; and although my impassibility was as great as possible, she heard objections and reproaches to which she hastened to respond. We continue looking at each other in this way for nearly half an hour, when she murmured some words which I did not comprehend. I gave her my note-book, on which she wrote as follows: "Clemence, brought to the Salpêtrière, ignorant of all that has passed here, for I have not deserved such a punishment for having merited so little happiness. I swear that I have not stolen from any one; that I have not borrowed from any one all that is in my room—the jewels, the goblets of silver; that I am come with confidence; that I have never engaged in the lottery; that I will go everywhere with honor; that I saw the mill turn. . . ."

Then she gave me back my note-book, and continued as before. At length she said, "But, sir, why do you not speak out to me? I do not know—nothing at all, sir—when nothing is said. . . . Never have I been in a bad place. I do not know what it is you would say to me. If any one has sent me to sleep by a drug, I don't know what has passed. No! sir, I have never been unfaithful to him. If monsieur want to answer me?"

"What difference do you find in my answers, according as I move my lips and as I don't move them?"

"I find that you express yourself frankly, and I prefer to hear you speak. I hear your thought, and I don't know why. . . . No, sir, I never dipped my hands in blood; never did I assassinate. Yes, sir, I love him still."

"How does it happen that you heard my thoughts?"

"I think that it is by physic that I heard him speak. . . . Even when there is nobody, I hear talking."

"Are sad things ever said to you?"

"I never hear agreeable things. . . . You will see if my conduct will not always be the same."

"When were you married?"

"I could not tell you exactly."

"Do you remember what day, what month; whether it was in winter or in summer?"

"No, sir, I have forgotten, by the work which has been laid on me, by the baths and fasting. I believe I am pregnant; I have, perhaps, serpents, but my husband is not a serpent. I felt myself carried off. The King of France is come; I made a crown, and I said, 'If I have deserved a crown of thorns, I am quite willing to wear it.' I don't know how I came back to earth, and it appears as if underneath me everything was engulfed."—(Sinogowitz, 'Die Geistesstörungen,' Berlin, 1843, p. 35.)

EXAMPLE XLVI.—*Chronic mania; loss of personal identity; hallucinations of all the senses.*—An invalid, of the division of Pariset, æt. 56, enjoying, to all appearance, good health, has lost, since 1827, the consciousness of her personality, and believes herself to be quite another woman than she was formerly. That belief seems to be united to a change which has taken place in her way of feeling, and especially to hallucinations, various, and manifold, and continual. She never speaks of herself except in the third person, and employing this phrase—"the person of me."

Provided one does not come too near her, and does not touch her bed, her chair, or her garments, nor anything that belongs to her, one succeeds easily in conversing with her. She replies kindly and politely, "How are you, madam?"

"The person of me is not a dame; call me miss, if you please."

"I don't know your name; be kind enough to tell me."

"The person of me has not a name; she desires you not to write it."

"I would like much to know your name, or rather what you were once called."

"I understand what you mean. It was Catherine X. We mustn't talk further of what took place. The person of me has lost her name; she gave it up on entering the Salpêtrière."

"What is your age?"

"The person of me has no age."

"But that Catherine X. of what of whom you spoke, how old was she?"

"I don't know. She was born in 1779, of Mary and James ——, living at ——, and was captured at Paris, etc."

"If you are not the person of whom you speak, you are perhaps two persons in one?"

"No! the person of me does not know that which was born in 1779. It is, perhaps, that lady you saw down-stairs."

"Are your parents still alive?"

"The person of me is alone, and much alone; she has no relations, and never had any."

"And the relations of the person whom you formerly named?"

"Folks say they are still alive; they call themselves *my* father and *my* mother, and I believed it up to the year 1827. I fulfilled my duty to them up to that period"

"You are therefore their child? Your mode of speech shows that you think so."

"The person of me is no one's child. The origin of the person of me is unknown; she has no recollection of the past. The woman of whom you speak is, perhaps, she for whom this dress has been made (pointing to her dress); she was married, and had several children." (Minutely relates the circumstances of her former life, but always stops at the year 1827.)

"What have you done, and what has happened to you since you became that person?"

"The person of me lives in the asylum at ——. They make, and still make physical and metaphysical experiments with her. This work was unknown to her before 1827.—Here comes a spirit, and mixes its voice with mine. The person of me will not have this, and sends it quietly back."

"What like are the spirits of whom you speak?"

"They are small, and cannot be laid hold of."

"How are they clad?"

"In blouses."

"What language do they speak?"

"French. If they spoke in any other language, the person of me could not understand them."

"Is it actually certain that you see them?"

"Quite certain; the person of me sees them, but metaphysically, in invisibility, not materially; else they would not be invisible."

"Do you sometimes experience odors?"

"A feminine composition, invisible, has sent bad odors to me."

"Do you sometimes feel the invisible in your body?"

"The person of me feels it, and is very angry at it; it has perpetrated all sorts of immodest deeds upon her."

"Have you a good appetite?"

"The person of me eats, she has bread and water. The bread is as good as any one could wish; she desires nothing more," etc.

"Do you pray sometimes?"

"The person of me knew her religion previous to 1827; she knows it no more."

"What do you think of the women who live with you in this room?"

"The person of me thinks that they have lost their judgment; at all events, the most of them."—(Leuret, 'Fragments Psychol.,' p. 121.)

EXAMPLE XLVII.—*Chronic mania with the character of exaltation.*—A woman at present in the Salpêtrière believed herself to be at the same time, God, Jesus

Christ, and the Holy Virgin. Adorned with ribbons, with a bunch of feathers and paper flowers upon her head, she joyfully roamed about the grounds of the hospital. She had told me who her parents were, and related circumstances which she had witnessed in her early years. We had the following conversation together:—

"When did you become God?"

"Three years after my marriage; one day I wanted to jump out at the window, but I felt something restraining me."

"From whom?"

"From God."

"You are God; it was therefore yourself who restrained you?"

"Yes, and on another day I went to confession."

"Then you had not yet become God?"

"No, I did not then feel that I was."

"Jesus Christ was a man, and you are a woman. You cannot therefore be Jesus Christ?"

"Ah! my dear sir, that is a mystery—I know nothing of that; I am the Virgin Mary."

"It seems to me that you have no cause to consider yourself God?"

"I will punish all those who thus offend me; God cannot descend from his throne to avenge me."

"Do not excite yourself; you are God, are you not?"

"Yes."

"Are you here of your own accord?"

"No; I was on a pilgrimage, when I was waylaid, and brought into this hospital."

"Why, then, did you allow it, if you were God?"

"I could not prevent it; it is not for me to go against the authorities. The state procurator would not let me go. We shall have a great war, a civil war. I have written to Louis Philippe, saying that he will be king for two years yet. I have a brother who has four sons, and they are apprentice kings."—(Leuret, 'Fragments Psychologiques,' 1834, p. 323.)

EXAMPLE XLVIII.—*Systematically developed and dramatized delusions of bodily and mental influences. Hallucination of all the senses, especially of the cutaneous sensibility; possibility of completely concealing the delusion.*—Haslam narrates, in his small work, 'Illustrations of Madness,' London, 1810, the history of a man, named Matthews, who, in the year 1797, in consequence of a judicial verdict, was received into the hospital of Bethlehem; in 1798 he was removed to the division for incurables. There he remained for several years, sometimes considering himself the subject of experiments made by certain persons—sometimes the emperor of the world. In 1809, his relatives, who were opposed to his residence in Bethlehem, proposed that he should be dismissed, and requested Drs. Clutterbuck and Birkett to inquire more minutely into his mental condition. These gentlemen, after having visited the patient four times, certified on soul and conscience that Matthews was *in a state of perfect mental health.* A new commission of eight physicians was now appointed, who, after a long examination, granted a certificate, also on oath, *that the man was in a high degree insane.*

And indeed he was. He cherished the delusion, in its details highly elaborated and dramatized, that a band of wicked men *acted upon him in a great many ways by magnetic currents* from an apartment in the vicinity of the town-wall. He heard and saw these persons, and can therefore minutely describe them. There are seven of them, four men and three women. The chief amongst them is one named Bill, also called the King: he is from sixty-four to sixty-five years of age; his thoughts are constantly directed towards wicked objects; no one ever saw him laugh. The second is called Jack the Schoolmaster, who also calls himself the Registrar, about sixty years old, tall and thin. The third person is Sir Archy, aged fifty-five: wears a dirty-colored coat and knee-breeches; he constantly employs sly sarcastic language, and speaks with a provincial accent. The fourth is called the Middle-man: is fifty-seven years of age; has a hawk like expression, wears a blue coat and a glossy vest, and constantly sits grinning. The first woman is called Augusta: thirty-six years old, of medium height, and characterized by the sharpness of her features. She dresses in black, like a country shopkeeper's wife, and wears her hair unpowdered. The second is called Charlotte: she is a ruddy brunette, and very like a French woman. The third woman is very peculiar: she appears to have no Christian name, but the others call her the Glovewoman, because she always wears cotton gloves, and indeed, as Sir Archy dryly remarks, to keep people from seeing that she has the itch.

The influences which these imaginary individuals exert upon the patient, by means of a complicated machine which he can minutely describe, are of a very various nature. The patient describes a number of these various torments (hallucinations) in his own terms, thus:

Obstruction of the fluids—a knotting together of the fibres of the root of the tongue, whereby speech is brought to a standstill. *Cutting off of the soul from the feelings*—an expansion of the magnetic current from the root of the nose to the under surface of the brain, as if a veil were spread over it, so that the feelings of the heart are disconnected from the operations of the mind. *Dragon-flying*—as boys fly a paper dragon, so these rascals, by means of their art, cause any special idea which strikes them to arise in the mind, which then moves to and fro for several hours; and should he wish to get rid of the idea thus forced upon him and call forth some other, he cannot do so; he must devote his whole attention to their idea. He is also, during the whole time, conscious that the idea is foreign to him, and urged upon him from without. *Being bound down*—a fettering of judgment in reviewing one's thoughts. *Bursting of bomb-shells*—one of the most frightful modes of being influenced. The vital fluid present in the brain and in the nerves, the vapor which rises up and down in the blood-vessels, the gas in the stomach and bowels, are in the highest degree rarefied and rendered combustible, which then causes a very painful expansion of the whole body. During the sufferings of the unfortunate victim, these rascals let loose a powerful charge of the galvanic battery, which produces a fearful shock and rends the whole body. Fearful cracking is felt within the head, and it is really wonderful how the great shock does not cause immediate death, etc., etc.

During sleep, Matthews is tormented by dreams. These rascals have many various kinds of curiously formed dolls: when they have looked at these for a certain time continuously, they can throw the image of these figures into his soul during sleep, etc.

The stuff which these individuals use in their experiments is, according to Matthews, of a very complex and various nature—the seminal fluid of men and of women; the emanations of copper and sulphur; the vapor of vitriol and aqua fortis, of nightshade and hellebore; the excrement of dogs, human gas, croton oil, vapor of arsenic, etc. [See the detailed communications of the patient, and his description of the machine, in Nasse, 'Zeitschrift für Psychiatrie,' A, 1818, i.]

Many cases found described in original MSS. or in pamphlets, some of them published by the patients themselves, belong to the same category as this case: for example, 'Cry of Distress of one who is poisoned by Magnetism,' Stuttg., 1853; also the case described by Kieser as "Melancholia dämonomania occulta" ('Zeitschrift für Psychiatrie,' x., 1853, p. 423), of externally concealed mental disorder of forty years' duration, with the delusion of being the continual object of demoniacal experiments, and with dominant hallucinations of hearing.—Anomalies of sensation in the most varied parts of the body, which in these cases are so fantastically elaborated, occasionally occur in the state of health. These conditions are in general far too little studied; they are generally thrown into the general class of hypochondriacs, and I think I shall again refer to them elsewhere. A patient of this kind, in my practice, and about fifty years of age, has for many years experienced, almost uninterruptedly, the sensation of a constant "heaving and lifting" in his whole body. A young man, twenty-one years of age, *whose father had been insane*, has a sensation, which has been constantly increasing since his fourteenth year, as if head and face were covered with threads, and some one was continually pulling at them, always preferring the head; lancinating pains in the knees and shin-bones, etc. These patients do not think of ascribing their malady to others; but their abnormal sensations would, should mental disease set in, immediately afford rich material for such imputations.

SECTION II.—*Dementia.*

§ 151. Under the states of mental weakness without the striking predominance of a single delirious idea, we comprehend under the name of dementia—as distinguished from apathetic dementia—those in which the patients still manifest a certain degree of external vivacity and activity in conversation as well as in conduct, indicating that there still exists some variety and activity of thought and effort. Here, also, there are very many varieties in the manner in which the mental weakness is manifested. Most characteristic are the numerous cases which in their external symptoms present an apparent similarity to mania: this similarity, however, can only be external and superficial.

In all these cases the fundamental disorder consists in a general weakness of the mental faculties. In the sphere of the emotions this is manifested in the increasing incapacity of the patients for any profound emotion, with irregular change of quite superficial emotions or persistent, complete indifference. Hate and real love are alike impossible to these patients; privations are little if at all felt by them, and they cannot rejoice at agreeable occurrences. If an occasional turbulent ebullition should also occur, it is neither the result of strong thought, nor of an energetic act of emotion or will; indifference quickly returns, and it is this indifference which shows the abnormal state of the emotional reactions towards the external world (laughing and amusing themselves in the midst of the saddest events, etc.). The dominant disposition of mind presents endless varieties. Some of these patients constantly manifest a lively disposition; they laugh, dance, sing, and show, in their gestures and conversation, pride, self-satisfaction, and the most perfect assurance (Moria—see § 139); others, on the contrary, are in a perpetual state of anxiety—they shed many tears, and present the symptoms of grief and care. Others, again, have a tendency to do mischievous acts, to take pleasure in the misfortunes of others. But these dispositions are neither the result of an external (as in health) nor of an internal (as in mania or melancholia) motive; they are quite superficial, alternate with each other without any cause, and are expressed in a manner altogether foolish and childish. With the complete indifference and absence of all actual desires which characterize the patients, we sometimes see manifested disorderly mental movements and aimless extravagant impulses whose meaning the patient himself cannot understand, and the reaction of the will, where this still exists, has throughout the character of transitoriness and inconstancy.

§ 152. While in the sphere of the emotions all tends towards feebleness, impotency and atony, the same tendency is also observed in even a still higher degree in the sphere of perception: this is in accordance with what has been already said regarding the connection between emotional weakness and weakness of perception. This appears chiefly in the form of loss of memory, and the power of reproduction of the ideas is chiefly affected in this manner—that more recent events, things that occur during the dementia, are almost immediately forgotten, while not unfrequently former ideas connected with events which happened long ago are more easily reproduced: still, many of these patients have utterly forgotten their former life, and even their own name. As all the operations of the mind proceed entirely without energy, no durable impression is retained of what is presented to it: besides, these patients have also lost the power of comparing separate ideas, of deducing a general fact from them, of judging and of concluding, and all thought has degenerated into a disconnected mass of fleeting images and words. It is a useless and sterile activity of the intelligence, which indulges in unequal, isolated, and incomplete ideas, but is incapable of combining them into a distinct judgment. From this there results, on the one hand, the impossibility of all abstraction, and, on the other, an external incoherence in the associated images and ideas which proceed from accidental impressions of sense, or according to the merely external connection of accidental similarities (for example, similarly sounding words). From this, too, there results the want of all logical form, the irregular change of disconnected ideas, the unmeaning parrot-like repetition of words and phrases from custom and according to accidental similarity of sound, incoherent and senseless replies. We often think that in such patients an attempt at memory, at judgment, and at attention may be discovered, which, however, falls powerless and inefficacious; again, we may observe breaks in their sentences in which the intermediate parts which should connect them and form the transition to new ideas are wanting, and we may often receive the impression that these pitiable creatures themselves were tacitly and painfully feeling their own inability to direct themselves aright amidst these broken remains of psychical life.

Special fixed ideas, true delirious conceptions, are never produced anew in dementia; those which formerly existed become with the increasing weakness less intense, and the patient can as little implicitly rely on them as he can energetically adhere to anything. Still, the reproduction of the ideas which are developed during the period of maniacal excitement often continues for a long time, and we again frequently find the extravagances of monomania in the senseless repetition of great numbers, in immense and romantic ideas of their own greatness and large possessions (thousands of millions, diamonds, worlds, etc.). These, however, have all become to the patient a mere play of words, and are totally void of thought.

§ 153. The organs of sense may perform their functions quite normally; the patients see, hear, etc., correctly; but the elaboration and transformation of the sensorial impressions into adequate ideas in the brain no longer proceeds properly, or—and, indeed, ordinarily—hallucinations exist which, along with the ideas, share the character of incoherence, want of method, and abruptness.

The muscular movements are in many cases restricted, owing to commencing or progressing general paralysis. Where this is not the case the corporeal movements are restless and unsteady, yet awkward and little varied, and the attitude is often clumsy and helpless. Sometimes the patients constantly run to and fro as if they were looking for something, or they rove about dancing, hopping, gesticulating with the hands and making odd automatic movements. Their demeanor and movements are either altogether inexpressive, or are expressive only of very weak emotions; and here also are presented many childish and capricious habits, such as collecting rubbish, remaining always in bed, pleasure in toys, and dressing fantastically. Sometimes they manifest a wayward refusal of food, and other symptoms of childish obstinacy; more frequently we observe the love of eating—they frequently swallow the most loathsome things. Very many of these patients who have been long confined in the asylum are addicted to onanism, and we may frequently gather from their conversation indications of considerable disorder of the sexual functions—a circumstance which ought to receive immediate and further investigation.

The physiognomy is generally old and stupid, the expression vacant, and the countenance obscured by neglect and dirt. The physical health may be good, or the most various chronic or acute diseases may be present; not unfrequently there is a great tendency to become corpulent.

Complete intermissions never occur during the course of dementia. Remissions occur in such a manner that quieter and somewhat more rational states alternate with the periods of greater turbulence and agitation. The course of these states is always progressive; the mental weakness constantly increases, and is most rapid when the dementia is complicated with general paralysis: otherwise the patient may remain in the same state for periods of several years. Recovery never takes place.

EXAMPLE XLIX.—*Transition of monomania into complete dementia.*—Julia had but one idea, and that was a most extravagant one. She thought she was the Almighty. She indeed spoke also of other things; but her sayings were without definite aim or connection, and she had almost none of the habits of ordinary life. There is not yet complete loss, but only considerable weakness of all the mental faculties, as may be learned from the following conversation:

"Madame, what is your name?"

"I am called, my name. You owe me a field. I am indeed the Almighty. My understanding has been curtailed in order to make an apron of it."

"How old are you?"

"I am fourteen years old" (she was at least thirty).

"How many are forty-five and three?"

"That makes forty-eight. Now! some has stolen both my gold and my jewels."

"Who took them from you?"

"Ask your own thoughts; I am not the cuirassier woman—I am the Almighty."

"Since when have you been the Almighty?"

"Always, always—I have always been the Almighty."

"But the Almighty has a beard, and you have none."

"I beg your pardon, here it is" (pointing to her hair).

This patient seldom remarks anything, and her attention is never continuous. She has little remembrance of the past, and very little of the present. She is only capable of the simplest acts—making her bed, putting on her clothes, eating her food. She knows the name of nobody about her, although she has lived with them for several years. In a moment she passes from laughing to quarrelling, etc. (Leuret, 'Fragments Psych.,' Par., 1834, p. 34.)

SECTION III.—*Apathetic Dementia.*

§ 154. Sometimes, as a mode of termination of the forms we have just been considering, sometimes without the antecedent occurrence of the more noisy and agitated forms of dementia, there occur still deeper and more complete states of paralysis of the psychical functions, in the most extreme degrees of mental decay.

The inability to comprehend several ideas and to compare them always increases, and instead of the numerous abrupt disconnected ideas seen in the preceding forms, there gradually ensues almost a total absence of images and thoughts. The sensorial impressions are no longer elaborated, nothing comes out of them; memory is so completely effaced, that not merely what happens in one moment is forgotten in the next, but all reminiscences of bygone times are almost entirely lost. Language even is to a great extent forgotten, so that the patients even in the most favorable cases can employ only a few current, very limited, and little applicable expressions; more frequently the few words that remain are only automatically repeated, or the words themselves are not entire, but are merely ejaculations of accustomed sounds. This very high degree of dulness of the imagination and loss of the intelligence is accompanied by extreme weakness of the will. The patient can no longer actuate himself to do anything, even by the force of former habits; he must rather passively submit to be directed by some extraneous impulse. He is frequently unable to supply his simplest wants, and requires to be fed; he loses himself every moment in his own room; and his ignorance of danger renders it necessary that others should protect him against accidents. His conduct is uniform, and always the same; sometimes apparently concentrated in self—shy, dull, silent, and inert; sometimes automatic movements are gone through—swaying to and fro of the body, rubbing the hands, murmuring, making unmeaning noises, etc. The gestures are lifeless—the countenance is relaxed or amazed, or apparently attentive without motive, and the vacant look and bursts of laughter show that there exist no ideas which the patient can express. Nevertheless, they sometimes express slight symptoms of pleasure or displeasure and traces of emotion; of preference, from custom or with a motive, for particular persons; of the sense of shame, of childish pleasure in mischief, of anxiety (hiding themselves), etc. In their better moments, there come back to them reminiscences of former life, a greater participation and pleasure in the external world, and a lively appreciation of kind treatment; and there is in these lingering traces of self-consciousness and emotion enough to make us respect human nature, even in this its state of deepest degradation—in these unfortunates, whose silent, inexplicable gestures often, unconsciously to themselves, reveal a melancholy past.

Serious disorders of the motory and sensitive functions of the brain very frequently accompany this sad mental state, in particular entire paralysis of movement, and frequently also of sensation, so that the patient can often endure the deepest and most extensive burns without any feeling of pain. The nutrition may remain for a long time unimpaired; the patients remaining corpulent, eating with a voracious appetite, etc. Sleep, too, is often well maintained, being sound and prolonged.

The only mode of termination of these states is death. The patients sometimes succumb to the apoplectiform attacks which occur during the course of general paralysis, or to serous effusions in the brain, to cerebral atrophy, or to chronic and acute disease in other parts—pneumonia, gangrene of the lung, tuberculosis, intestinal catarrh. Some die from want of proper care, owing to retention of urine or of fæcal accumulations, or in consequence of accidents, burns, choking by taking too large mouthfuls of food, etc.

Senile dementia, too, terminates in the way we have just described, as also many analogous conditions sometimes observed in the prime of life, and proceeding from atrophy of the brain with or without arterial degeneration. These lamentable cases of primary, slowly commencing, progressive dementia, often proceeding to complete mental destruction, occur in the prime of life among high and low; among the former, sometimes in distinguished men, owing to excessive mental and bodily exertion and irritation. It is often very difficult to distinguish the commencement of these conditions from mental exhaustion and apathy, which may be caused by simple anæmia. Slight numbness of the extremities and symptoms of muscular convulsions may also exist in the latter-mentioned cases. It is frequently not until after long observation that a conclusion can be arrived at; the treatment must be nutrient and tonic, all causes of irritation being, of course, removed. Those cases in which a primary state of mental weakness has for a long time preceded an attack of apoplexy or of encephalitis, generally depend upon disease of the cerebral arteries.

SECTION IV.—*Idiocy and Cretinism.*

§ 155. By the term *idiocy*, we are to understand those conditions in which a state of mental weakness has existed from birth or from early infancy, and in which the *psychical development* has been thereby *impeded or prevented*. Individuals in these circumstances remain to a greater or less extent below the average in intelligence; nor can they attain to the degree of education and instruction corresponding to their age and social position.

While psychologists are generally agreed as to this definition of idiocy, they are, on the other hand, far from being at one as to the significance which the originally popular expression *cretinism* should bear in science. Most frequently, however, the term *cretinism* is applied to a particular species of idiocy, namely, that in which the subject presents a *hereditary defect of physical conformation:* it is in this sense that we shall here employ the word. This physical defect need not of necessity be always the same—it is not specific: nevertheless, there is *one* form of it, by far the most frequent and best known, everywhere the same, and apparently characteristic; it occurs in various parts of the world, but especially in mountainous districts, as a widely spread disease depending upon local causes. The prototype of this form is *alpine cretinism*, and may be designated by the term cretinism in the restricted sense of the word. It will be afterwards described. This form is always endemic; occasional cases of sporadic idiocy may, however, be developed, according to the nature of the physical defect.

In all possible forms of idiocy we can, considered from the standpoint of the intellectual development, distinguish several *degrees* of the malady. It would be useless to establish many degrees and gradations minutely distinguished from each other; it is better to distinguish, in the first place, simply, 1*st*, *the more severe cases* of intellectual nullity—dementia, fatuity; and, 2*d*, *the less severe cases* of simple mental weakness—weakness of mind, imbecility. In cretins the degree of intellectual disorder (viewed *generally*) is in direct relation to the physical defect; we therefore generally meet with both relations together; and correctly distinguish cretins and semi-cretins: the latter states imperceptibly pass through many intermediate degrees into the state of health without any distinguishing sign.

According to what has been said, every cretin is an idiot, but every idiot is not a cretin; idiocy is the more comprehensive term, cretinism is a special kind of it. This acceptation of the term is at the present day, if not general, at all events the most frequently adopted; some signify by the term cretinism, the highest degree of congenital dementia. Opinions such as are expressed in the most recent work of Guggenbühl ('Zeitschr. der k. k. Ges. der Aerzte zu Wien,' 1860, p. 87) only lead to confusion. "We may consider as mentally weak, and therefore on the road to cretinism, (!) all children who neither at home nor in the school can be made accessible to the ordinary means of education and instruction."

In sporadic idiocy, the physical conformation may be perfectly normal; we occasionally even meet with beautiful and well-developed children in a high degree of dementia. As a rule, however, this is not the case: the bodily development is generally involved, in particular it is often far behind the age of the patient; the forms, especially of the head and face, are incomplete and far from beautiful; but in sporadic cases we never find those well-marked and peculiar defects in the physical conformation which, owing to the extensive anomalies found in several organs (for example, in the thyroid gland), may be considered as an affection of the whole constitution. The attempt to compare every qualitative peculiarity of the endemic and non-endemic idiocy appears to me to be at present premature, although it found in Zillner an original and well-informed advocate.

A. *Idiocy in general.*

§ 156. The essential character of all idiotic states is *weakness of the intellect*, as the fundamental faculty of the mind; a weakness which in many cases may be recognized in all the phases of the mental life equally, while in others certain psychical processes—for example, the *emotions*—are still allowed a certain degree of activity, or even certain great series of ideas remain free and capable of a moderate degree of development (special aptitudes, talents displayed by certain idiots). From the circumstance that the weakness of perception is itself the fundamental disorder, idiocy is entirely distinguished from the psychical imperfections dependent upon deficiency of the senses, such as deaf-dumbness. From the circumstance that this weakness comes on at an early period of life, and that therefore the psychical development is annulled, or at least much retarded, it is distinguished from dementia developed during the subsequent years of life when, as is indeed very often the case, the state of weakness arose after an originally normal mental state, or even—which happens more rarely—was ushered in by a preliminary stage of exaltation.

It is beyond doubt that the weakness of the intellect, and therewith the arrest of the psychical development, depends upon a cerebral anomaly. This fact is, in general, much more capable of being directly proved and demonstrated than in other mental diseases. In many cases of idiocy there may be observed considerable pathological changes in the brain or its membranes, on an average much more so than in mental disease in the restricted sense (§ 159); and we can, in general, say, supported by the great majority of cases, that the deficient mental development is the direct result of deficient cerebral development in childhood, and that it is in proportion to it. Nevertheless, evident and palpable changes in the brain or its membranes are not always found in idiocy, and we are impelled, by numerous facts, to the assumption that there are also idiotic states, where the weakness of perception does not depend upon organic changes, but originally upon a simple functional anomaly of the brain. To this class ought many cases to be referred, where frequent epileptic attacks in very early life, or where onanism, commenced at a very early period, have induced an early exhaustion of the cerebral functions; others, where long general illness in a child, with impairment of the nutrition of all the organs, included the brain, and therefore the due performance of its functions; further, cases where the mental development remains stationary from want of any external mental impulse—from extreme neglect and inattention, associations with other dements, unfavorable outward relations, etc.; finally, certain cases where the mental development does not progress, because in weakly children there exists such an excessive degree of emotional irritability, of timidity and fear, that a state of passionate excitement is awakened by every attempt at mental influence, even by any lively sensorial impression, so that development of the normal process of perception is rendered impossible. Although few of the latter cases originally belong to the idiotic states, still they have the same practically important result—arrest of mental development. But these cases of merely functional cerebral disorder, which at the commencement constitute a more *apparent* dementia, form a very small minority compared with the cases where the psychical disorder is the result of organic changes in the brain.

On the other hand, those cases which now and then occur of great dulness or absence of emotion, existing from early infancy, and which are manifested in a precocious perversity of the desires, often as rudeness, wickedness, savageness, etc., do not belong to idiocy, although they are in a certain sense psychical defects, and are sometimes spoken of as cases of moral idiocy, stunting of the sentiments, etc. These states may be associated with good as well as with bad natural talents, and are not necessarily due to arrest of development of the psychical functions.

§ 157. The *causes* of the various cerebral diseases which form the organic basis of idiotic states correspond in many relations with the causes of the other psychical diseases (see Book II.): nevertheless, there is here much that is peculiar and special.

It is evident that, in many cases, powerful causes exist in the parents which influence the developing germ which afterwards becomes an idiot. In families where epilepsy, mental diseases, paralytic affections, deaf-dumbness, are frequent, idiocy is also observed to be common. Frequently it occurs as a mere partial phenomenon, as an individual manifestation of a general deterioration of a race: thus we see in a number of brothers and sisters, one or two idiots, together with others who are small, incompletely developed, ugly, and sterile. These degenerations are principally observed in families where the blood has not been sufficiently renewed; where the marriages have always been with near relatives; also where the parents have been too old or too young, or addicted to drunkenness. Sometimes all the children of such marriages bear evident marks of idiocy, or of some other form of degeneration; indeed, in certain cases this may be recognized as increasing from the first to the last child, so that, for example, the last or the two last are quite demented—the others stunted in growth, hysterical, nervous, epileptic, deaf-and-dumb, etc. At other times some of the children are perfectly healthy; but this does not render the statement incorrect, that idiocy is a mark of degeneration of race in that family: at the time of conception of the various children, the state of health of the parent may sometimes increase, sometimes considerably diminish, the influence of the constant (tending to degeneration) causes.

The shallow doctrine which has recently been promulgated, that mental disease, drunkenness, etc., of the parents, does not so much influence the germ as it favors of the development of the idiocy—that, under such relations, the care and education of the children must necessarily be neglected—can easily be refuted by the results of observation of idiocy in the higher and even the highest ranks of life. This hypercritical questioning the hereditariness of idiocy can, generally, only lead from the way of truth (see §§ 92, 93), and its hereditariness may be accepted in the same wide sense as that of other mental diseases (§ 92). In a case which came under my observation, the father of a highly idiotic child suffered from violent periodic headaches, during which he sometimes quite lost his senses: the brother of the father was likewise disposed to frequent headaches (see § 92). In another case which I observed, the father of an idiotic boy lived in a habitual state of excitement, as if he were always intoxicated: the brother of the father was an idiot.

Another, but little known, series of causes acts during the fœtal period. During this period various errors of development and diseases of the brain and its membranes may occur, to which sometimes external injuries may give the impulse, for which, however, much more frequently, no direct mechanical cause can be discovered. Great anæmia of the mother, drunkenness, violent shock and grief during pregnancy, appear not to be without influence. In certain rare cases, injury to the head during childbirth may exert an injurious effect.

Far more frequently, however, those diseases which lead to idiocy (also those which are hereditary) do not commence until after birth, from then till within the third or fourth year; in exceptional cases, till the fifth or even the seventh year. They commence and run sometimes an acute, sometimes an insidious chronic course; they consist in congestive, inflammatory, or other derangement of the nutrient processes, more rarely in sanguineous extravasations in the brain and its membranes, very frequently in affections of the cranial bones. Bad care and ill-adapted nourishment to very young children; keeping the head too hot; the use of coverings which compress the head; the use of opiates; injuries and shocks to the head, and other injurious influences of a like nature;[1] other diseases of childhood—as acute exanthemata, weakening of the infantile constitution by various causes, in some cases syphilis[2]—appear at this period to exert the greatest influence on the origin of those cerebral affections. The influence of early commencing epilepsy, or irritation of the sexual organs at an early age and its consequences, and, finally, the influence of total mental neglect and association with other idiotic children, is likewise not to be lightly estimated.

Finally, there are a series of powerful local causes, peculiar to certain localities, which we at present must consider to be miasmatic in their nature; with the progress of science, however, we may be yet able to analyze the individual circumstances. These causes lie at the foundation of endemic cretinism, and will be afterwards considered more in detail. But house and chamber miasms, owing to dampness, vitiated or too seldom renewed air, uncleanliness, appear to be capable of exerting quite an analogous action; the long-continued residence of young children in such chambers is therefore especially injurious. The "cretinism of large towns," amongst the inhabitants of low-lying, overcrowded, badly-ventilated, cold houses, is certainly to be in part attributed to miasmatic causes—together with a number of other co-operating influences. Miasmatic causes act more upon the origin of diseases of the cranial bones than upon affections of the brain itself or its membranes; they act partly upon the fœtus, partly upon the child after birth.

§ 158. We have seen that the great majority of cases of idiocy depend upon palpable anomalies of the brain and its membranes, and have now to determine *what* these anomalies are. If these were known to us, it would be extremely interesting to compare the various anatomical changes, according to their nature, their seat, etc., with the different kinds of mental defects. We might hope in this way to come nearer to the relations of certain parts of the brain to certain faculties of the mind, and, in a practical point of view, to arrive at the elements of an anatomical diagnosis during life. Nevertheless, we soon become convinced that, with our present material, certain by no means unimportant results in these directions may be arrived at (see § 166), but the principal part of the work cannot at present be undertaken. In a great number of the cases now under consideration, the psychological analysis is so defective; the manifestations of mental life, especially in idiotic children who die early, are so exceeding scanty; the changes found in the brain are often so incorrectly described; especially, however, there so frequently exist *several* cerebral changes,—that, in a theoretical point of view, we must at present renounce more minute explanations,[1] and content ourselves with collecting and, in a measure, arranging the material. For the practical anatomical diagnosis, however, we must depend more on the results afforded by direct examination of the head, on the etiology and on certain motory anomalies, than on the particular form of the mental weakness.

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[1] See Köstl, 'Der endemische Cretinismus,' etc., Wien, 1855, p. 9. "In the Bruck circuit, forty-eight notable cases of children are known whose idiocy is ascribed to a fall on the head from a height." In this work we find a number of contributions to that part of etiology which depends upon ignorance of the parents or guardians, or upon popular opinions.

[2] Erlenmeier has recently published the case of an idiotic child, where the cranium presented numerous exostoses, and who recovered under the influence of iodide of potassium. The case of Guislain ('Leç. or.,' ii., p. 93), where a child begotten of a powerful man while undergoing a course of mercury (for syphilis), whose former and subsequent children were perfectly healthy, was idiotic: this case is interesting, although it has no direct bearing upon the question of the influence of syphilis.

In general, we do not find the organic cause of idiocy to be a recent and still progressing morbid process in the brain, but either actual *arrest of development*, or states consecutive to and remnants of former morbid processes: as we have seen, these may have originated during intrauterine life, or after birth from the first to the fifth or sixth year, and in certain cases even later. In particular, we must distinguish between anomalies which originally and primarily involve the brain, and such as in the first place constitute an abnormality of the skull, by which, secondarily, the proper development and form of the brain is involved. We must, of course, remain undecided as to many cases which may be presented to us; but we may expect that the distinctive signs will become gradually more distinct and more certain: this distinction, as one regarding a fundamental process, is, as far as possible, to be maintained. In the following enumeration of the anomalies which, according to experience, are presented in idiocy, we shall endeavor, as far as possible, to carry out this distinction.

§ 159. Of these anomalies, *poverty of the brain*, in its various modifications, takes the lead. Abnormal *smallness of the entire brain* (generally well pronounced in the convolutions), with microcephalus, is to be regarded as an arrest of development, of which the source is sometimes in the brain itself, and sometimes in the cranium. The latter appears to be the more common, and it is principally the premature ossification of the entire cranium which confines the brain and prevents its normal expansion. Very early occlusion of the fontanelles (which is sometimes even complete at birth), premature ossification of a great many of the sutures of the skull, hinder the rapid growth in the early periods of life which is characteristic of the human brain (in none of the lower animals do the fontanelles remain long open); and this injurious influence on the cerebral development is greater according as the compensation which occurs through the expansion of other parts is less. In the other, less numerous class of microcephalics, all the cranial sutures remain, even to adult life (whereby the cranium may be either well proportioned or unsymmetrical); and the sources of the defective development of the brain must lie within the organ itself, or the cranium remains small with the brain. The brain itself may in both series of cases be simply small—a miniature brain, without other anomaly or defect, and properly proportioned in all its parts: more frequently, there also exist other changes, particularly scleroses, hydrocephalus, unequal size of the hemispheres, or other form of dis-symmetry.

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[1] We expect to receive information on these points from the idiot institutions, just as correct ideas regarding mental disease were first received from the asylums.

In many microcephalics the brain is even smaller than might be presumed from the external aspect of the cranium, owing to the occasional enormous thickness of the bones of the skull, and to the occasional existence of a considerable amount of hydrocephalus.

Baillarger ('Acad. de Méd.,' 29 Jul., 1856) has reported cases in which the fontanelles were, even at birth, to a great extent ossified. Cruveilhier has seen a case where there was synostosis of all the sutures at the age of eighteen months; cases in which many of the sutures are already ossified at the age of 3–4 are by no means rare. Also Virchow ('Gesamm. Abhandl.,' Frankf., 1856, p. 905) has described microcephalic skulls in which all the sutures existed. I myself have recently examined the cranium of a girl, aged nineteen, who died at Mariaberg; she presented the appearance of a child of ten or twelve years of age, had been epileptic and quite idiotic (uninterrupted state of profound dreaminess, complete dumbness, incapacity to walk or to stand). The cranium, which was very small, very short, and inclined to the right side and forwards, presented all, even the frontal suture, without trace of ossification. Another cranium, sent to me from the asylum at Winterbach, and which had belonged to an idiotic woman twenty-one years of age (weight of the brain, 36 loth—about 18 ounces—the left hemisphere very short), was not so large as the skull of an ordinary child of seven years. It did not, however, present any striking abnormality of form, being only a little unsymmetrical; the frontal suture was completely obliterated, the sagittal suture was incomplete anteriorly, posteriorly quite ossified: the other sutures were well preserved.

Concerning a remarkable case of miniature brain which Baillarger and Gratiolet examined, see 'Acad. de Méd.,' 26 Mai, 1857. The brain was that of a female Aztec child (§ 166); it was perfectly well formed, and presented no trace of hydrocephalus; it was, however, so little developed, that it resembled the brain of a fœtus in the seventh or eighth month.

Under the head of general poverty of the brain, may also be ranged those cases in which the convolutions are remarkably simple, although the volume of the brain is not much below the average; these cases present at least a notable diminution of the cerebral surface.

In idiots the brain is frequently diminished in volume in certain parts, or it may even present certain defects. The following are the principal varieties:—Sometimes the cerebral hemispheres are *imperfectly developed in certain parts*, most frequently in the *anterior lobes* (when the antero-posterior diameter of the cranium—as frequently happens—is diminished, the cerebral hemispheres are necessarily shortened, but this is generally most strikingly manifested in the anterior lobes), when there is often remarkable stunting of the olfactory bulbs, sometimes also of the *posterior lobes*, when the cerebellum is not so completely covered as usual or not completely covered by the cerebrum; those parts which are insufficiently developed may present few but moderately developed convolutions, or they may be very small, as if atrophied, or as if they remained at an early childish stage.[1] *Inequality of the two halves of the brain*, particularly of the *cerebral hemispheres*, must not be attributed to hypertrophy of the greater, but to atrophy of the smaller half; and this abnormal smallness may be the result of a deformity of the cranium (unilateral stenosis), or of an original deficiency in the development of the brain, or of arrest and atrophy in consequence of encephalitic, apoplectic, or other processes, of which palpable traces may sometimes subsequently be found (brown or yellow spots, small deficiencies in the cerebral substance, etc.). In this respect all degrees exist, from the slightest shortening to the state where a whole hemisphere has almost totally disappeared, and is transformed into a meshwork filled with serum; even in moderate degrees the substance of the lesser hemispheres is often changed, coriaceous, compact (sclerosity), the lateral ventricles dilated, the choroid plexus thickened, etc. The dis-symmetry frequently extends to the cerebellum, pons Varolii, and medulla oblongata; in particular, the cerebellum often participates in it when the atrophy results from shortening of the cranium; and, as it appears, this atrophy is sometimes on the same side as the atrophied cerebral lobe, sometimes on the opposite side;[1] there frequently exist atrophy, paresis, convulsions of the opposite half of the body (the condition which has in recent times been described as "unilateral atrophy," and which is not always associated with idiocy). Little attention has as yet been paid to *atrophy of the medulla oblongata and inequality and asymmetry of many parts of the base of the brain* in idiots. These, however, will appear more important in proportion as the osseous basis cranii is, through recent investigations,[2] recognized as the point of origin of the disorder in very many cases of idiocy.

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[1] The latter condition, the apices of the two posterior lobes moderately but symmetrically diminished in volume, I recently observed in an individual, aged twenty-three, who had never been idiotic, but had, on the contrary, exhibited a moderate degree of intelligence and read a great deal. He had never manifested any sexual desire (this came to be inquired into, as he was diabetic). The cerebral hemispheres did not completely cover the cerebellum.

In the forementioned microcephalic girl from Mariaberg, I found the following abnormalities in the pons Varolii and medulla oblongata:—the pyramids were alike on both sides; the left olivary body was somewhat shorter than the right, especially at its inferior part; the left processus cerebelli ad pontem was weaker, smaller, and on its anterior and lateral border as if bent inwards; on the left half of the pons Varolii the oblique band of fibres (ruban fibreux of Foville, coming from the corpus restiforme) was much more pronounced, separated on its lower border from the more horizontal fibres of the pons by a deep groove; in the fourth ventricle the tuber cinereum at the point of the calamus was less developed than the right; the left hemisphere of the cerebellum was a little smaller but somewhat higher than the right. In the work of Demme, 'Ueber ungleiche Grösse beider Hirnhälften,' Würzburg, 1831, there are many analogous examples of inequality of the two halves of the pons Varolii, of the two sides of the spinal cord, and the two olivary bodies. The same condition has been observed by Valentin in an idiotic child from Abendberg: anomalies also in the pyramidal and olivary bodies were seen in a case by the Sardinian Commission on Cretinism ('Rapport,' etc., p. 204). The *entire spinal cord* appears to be atrophied in some cretins (case of Eulenberg and Marfels; Nièpce, ninth autopsy); this forms an important subject for further investigation, especially in individuals suffering from paralysis with convulsions, etc. Case of spina bifida together with hydrocephalus have also been observed.

Heschl[3] has described, under the name of *porencephalus*, those cerebral defects in which a large portion of the convolutions and centrum semiovale is wanting, in such a manner that a person may look through the aperture straight into the ventricle; this is filled with serum which is contained in a bladder or meshwork of the pia mater; sometimes the corresponding part of the cranium projects outwards.

Porencephalus does not appear to be produced by actual arrest of development of the affected part of the brain, but rather by an intrauterine disease which at a very early period destroys the part. In nearly every case of this kind there is idiocy, with more or less paralysis and contraction of the opposite half of the body; in cases presenting these symptoms, especially if there be a prominence on one side of the skull, the existence of this lesion may be presumed (Heschl). Tüngel ('Clin. Mittheil.,' Hamburg, 1860, p. 65) has recently published an analogous case where the subject, a man forty-seven years of age, had suffered from mental weakness, dementia, but had neither been paralytic nor, strictly speaking, idiotic.

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[1] See Virchow, 'Entwicklung des Schädelgrundes,' Berlin, 1857, p. 114.

[2] Virchow has, in his work on the Physiognomy of Cretins, particularly called attention to the fact that slight deviations in form of the pons Varolii, the medulla oblongata, and the fourth ventricle, may originate through spheno-basilar synostosis.

[3] Prager 'Vierteljahrschrift,' Bd. lxi., 1859, p. 59. A self-observed and three other cases.

As further but more rare anomalies met with in idiots, may be mentioned numerous, more localized, cerebral defects, deficiency or extraordinary smallness of the most varied structures of the organ; indeed; there is scarcely any portion of the brain which has not been found either altogether absent or quite rudimentary in these creatures. Thus, there are examples of absence of the entire cerebellum;[1] of deficiency of the pineal gland;[2] of defects of the fornix (Nièpce in several of his autopsies); of a rudimentary condition of one or of both olivary bodies, peduncles, corpora mamillaria, thalamus and corpus striatum; of atrophy of the optic commissure, deficiency of the auditory nerves (Valentin); finally absence or rudimentary state of the corpus callosum: of this anomaly, about a dozen cases, many of them very interesting, have been published.

Some of these cases of deficiency of the corpus callosum were profoundly idiotic; this appeared to be the case only in those where other defects or anomalies were presented by the brain. To these belong—1st, the case of Bianchi (1748, quoted by Förg): child of seven years, profoundly idiotic; complete absence of the corpus callosum, both hemispheres and the thalami and corpora striata run together in one mass; there was no pituitary body; there was some trace of the pons Varolii, but none of the pyramids and olivary bodies. 2d, the case of Förg (Die Bedeutung des Balkens,' etc., München, 1855; girl, seventeen years of age, in the highest degree idiotic, and badly developed physically; the middle free part of the corpus callosum was entirely wanting, likewise the septum, the middle part of the fornix; of the anterior and white commissures of the gyrus fornicatus, only a rudiment exists; the island of Reil is considerably atrophied; the convolutions are abnormally grouped, many of them entirely absent; the lobes of the cerebellum are unsymmetrical; hydrocephalus. 3d, the case of Chatto ('London Medical Gazette,' vol. i., 1845): child of one year, in whom all intellectual manifestations and sensorial perceptions appear to have been entirely wanting; corpus callosum, septum and fornix absent, except two small cords belonging to the corpus callosum, and which hang in front from each hemisphere; hydrocephalus. Finally, several of the nine autopsies of cases of endemic cretinism by Nièpce ('Traité du Goître,' etc., Paris, 1851, i., p. 25; ii., p. 111) present very great thinness or imperfect development of the corpus callosum, along with other deficiencies in the brain.

On the other hand, there is a series of cases where there is no profound idiocy, but merely a moderate degree of mental weakness; and sometimes even this does not exist. Case of Reil ('Arch. f. Physiol.,' Bd. ii., 1812, p. 341): a female, aged thirty, demented, but still able to go messages; the middle free part of the corpus callosum, the corpora geniculata, the convolution of the corpus callosum and the septum lucidum were entirely absent; the other parts of the brain appear to have been normal. Case of Solly ('The Human Brain,' London, 1826, p. 433): a boy, aged seventeen, always mentally weak, but took delight in reading religious books; was benevolent, docile, sleepy, inclined to stumble and fall: besides the want of the corpus callosum, a cyst was found in the brain. Case of Paget ('Med.-Chir. Transact.,' vol. xxix., 1846, p. 55): girl, aged twenty-one, amiable and childish disposition, showed no striking peculiarity, good memory, actions rapid and inconsiderate, speech sharp and abrupt; the corpus callosum was quite rudimentary, being represented by a thin band of horizontal fibres; the septum and middle part of the formix were absent. Case of Mitchell Henry ('Med.-Chir. Transact.,' vol. xxxi., 1848, p. 239): a boy, aged fifteen, gentle, but slow to learn, dull, sleepy, much disturbed when rapidly spoken to; the brain normal; the corpus callosum represented by a horizontal band of fibres, 1½ inch broad; the septum and middle anterior part of the fornix absent. Case mentioned in the Report of the Vienna Asylum for 1858: a man, aged twenty-five, in his twentieth year became epileptic in consequence of a fright, and since then has gradually fallen into dementia; the corpus callosum absent, the anterior commissure incomplete; hydrocephalus.

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[1] The famous case of the idiotic girl, of eleven years of age, 'Anal. Path.,' livr. xv., pl. 5.

[2] Schnepff ("Soc. de Biologie," 'Gazette Méd.,' 1850, p. 894). The brain was otherwise normal; the pituitary gland was absent; in its place were two concretions, hard like stones. The subject had been weak-minded from birth, and died at the age of twenty-nine.

§ 160. To the anatomical lesions most frequently met with in the brains of idiots belongs *chronic hydrocephalus*, congenital or commencing in early youth, and from the most moderate to the highest degrees; it is often accompanied by remarkable thickening of the lining membrane of the ventricles. In many cases, the hydrocephalus seems to constitute the primary and chief disease; this may be assumed in those cases, especially where the ossification of the cranium takes place slowly, where the bones of the head remain thin, where there is considerable or even moderate increase of size of the cranium (macrocephalus). In many other cases, again, the increased amount of serum in the cranium of idiots is often secondary; a result of limitation of development, of atrophy of certain parts—in short, of cerebral deficiencies (hydrops ex vacuo), or it is even a more accidental complication of various malformations of the brain. A convincing example of this is afforded by the unilateral hydrocephalus in atrophy of one side of the brain. In all these cases the cranium may be of the ordinary circumference, or even (and very often), as we have already seen, considerably less. The volume of the brain may in every case of considerable hydrocephalus be considered to be diminished, and very frequently that portion which remains is less capable of performing its function.

Rare but very interesting malformations of the head are caused by partial hydrocephalus, by great dilatation of the lateral ventricles in only one part (for example, the inferior cornu). Should this occur at a period when the skull still consists in part of the membranous elements of the cranial bones, symmetrical protrusions are formed, in consequence of the eccentric pressure exercised on the corresponding portion of the brain, sac-like prominences on the skull. See Willigk, Prager 'Vierteljahrschr.,' Bd. l., 1855, p. 30; Lambl, see § 161. A very remarkable and very rare fact which has been observed by Valentin and Nièpce is the presence of a fifth ventricle within the olives of the cerebellum (ventric ciliaris, normal in the brain of birds). In the first case (from Abendberg) the ventricle was from 1 to 1½ inch long. Those idiots with considerable hydrocephalic enlargement of the cranium generally remain small, and their entire development is retrograde, so that, for example, at sixteen years of age they appear like five or six. Still, this is not always and necessarily the case. I myself know of cases where a considerable amount of hydrocephalus coexisted with a well-developed body and pleasant features. The causes of these differences would form an interesting subject of study.

Encephalitic processes of variable extent, sometimes localized, sometimes more diffused and terminating in different ways, but especially in sclerosis and atrophy of the affected parts, constitute in many cases of idiocy the principal anatomical lesions. These may occur even during the embryonic stage, during the first months of life, or the period of the first dentition, and sometimes later, up to the fourth or fifth years. In those cases where death does not occur till long after the disease has run its course, it frequently happens that the remains of these processes are difficult to distinguish, and it is principally through cicatrices or other thickenings, through pigmentation, etc., that the atrophied parts (sometimes a whole hemisphere) can be distinguished from structures simply arrested in their development. In these cases the idiocy is very frequently accompanied by a unilateral motory affection (paresis, contraction), and sometimes by epilepsy. The diffused *hypertrophy of the connective tissue* of the brain which may, generally speaking, be referred to chronic encephalitis, and which is often found in paralytic dementia, has been proved by certain well-marked examples to occur in idiocy.

Isambert has communicated ("Soc. de Biologie," 'Compt. rend. et Mém.,' ii., 2, 1856, p. 9) an interesting case of this kind which was examined microscopically by Robin: it occurred in an idiotic child, two years of age: the ventricular walls, the great ganglia, the pons and peduncles were solid and hard; their tissue was elastic like caoutchouc, the nerve tubes in the white substance were almost completely destroyed, and an amorphous granular substance occupied their place: there also existed newly formed fibrous connective tissue.

In those common cases in which we are told that a hitherto healthy and well-developed child, about the period of dentition, or during the second or third year, suddenly became feverish; was attacked by convulsions ("fits"), delirium; fell into a slight soporific state, and soon afterwards apparently recovered, but the intellectual development remained at a standstill; speaking and walking, which it had recently commenced, become difficult, but the "fits" remain and gradually pass into epilepsy;—in these common cases there are two processes which we have principally to consider. These are generally either congestive states and slight inflammatory processes in the membranes, which may be connected with ossification (inflammatory) of the sutures of the cranium or with the general development of the infantile brain, and very frequently leave behind serous effusions, or a disposition to the gradual development of hydrocephalus. Or they are states of encephalitis, which, after the passing off of the acute state (with swelling of the brain, etc.), involve or suspend further development in the affected parts, and may often be recognized long after in their results at the autopsy. These processes may be assumed, above all, in cases where one side of the body is a little less developed than the other, where convulsions, paralyses, contractions, etc., exist, limited to one side of the body. As an example of the most severe form of this kind, I quote the following case from Calmeil ('Malad. inflammat. du Cerveau,' Par., 1859, ii., p. 411): "A healthy boy, during convalescence from measles, fell into a violent convulsive attack, which was followed by prolonged coma: he came out of this state deaf, dumb, and blind; in fourteen days the sense of hearing returned; after the lapse of a year he learned to speak a few words, but he continued blind, became epileptic and hemiplegic on the right side. At the age of thirteen he was in a state of profound dementia; at nineteen he could articulate a few sounds, but could not feed himself; his right leg was weak, his arm contracted. He died in his twenty-second year. The right half of the body was thinner and smaller than the left; the cranium small, well formed, very thick; œdema of the pia; the left hemisphere considerably smaller than the right. The left posterior lobe was especially small; its convolutions as thin as the blade of a knife, very firm, of a bright yellow color externally, internally of a dull white color; the left middle and anterior lobes were also smaller than ordinary; the right posterior lobe was likewise a little diminished and slightly sclerotic; the optici were indurated. The sclerosis and atrophy of the brain were evidently the results of an encephalitic process consecutive to measles.

Hypertrophy of the brain occurs much less frequently in idiots than do the various alterations which we have enumerated; it is impossible to distinguish it during life from hydrocephalus distending the cranium, as in both cases the head is large and the ossification imperfect, and—which is interesting in many ways—the base of the cranium is not extended, but rather shortened, or it presents only normal proportions (Virchow).

Baillarger ('Acad. de Méd.,' 29 Jul., 1856) mentions the case of a child of four years, in whom the brain weighed 1,305 grammes (or more than the adult average); and another case of a child ('Gaz. hebdomadaire,' 1859, No. 6, p. 93) in whom the body weighed forty-six pounds, and the brain 1,160 grammes. Bricquet, Delasiauve have recently reported analogous cases.

A remarkable appearance, and one which has hitherto received very little attention, is the unusual abundance of gray substance (in the ordinary localities) which has been remarked by various observers (Stahl, Rösch, Nièpce—seventh and ninth autopsies) in the brains of certain idiots, the amount of the gray substance being greater than that of the white. Occasionally, new formations of gray substance are found in parts where in the normal state it does not exist (Virchow found this in an epileptic idiot—I once saw it in an epileptic, of whose mental condition there was no information). Finally, the reports of several antopsies mention the interesting fact of hypertrophy of the pituitary body (Niépce, Bergmann). We may here very properly doubt whether these were cases of true hypertrophy, or of some other morbid change. Nièpce's third and sixth autopsies point to the latter: in the one (third) there were two small concretions, in the other (sixth) a cavity in the centre (in other cases, too, of endemic cretinism the pituitary body was very small). Examples have also been met with of extraordinary enlargement of the corpora quadrigemina (Niêpce's second autopsy).

§ 161. We now pass from the anomalies of the brain itself to the consideration of those of the cranium. These occur very frequently, and in great variety, in idiots. We have already mentioned this circumstance when speaking of the *consequences* of defective development of the brain (§ 158); in the following summary we shall again have occasion to return in part to this, but the principal subject of consideration is the *primary* anomalies of the cranium, in the investigation of which such interesting discoveries have recently been made.

It does not lie within the province of this work to enter into minute details upon this subject. The reader who is interested in this study is recommended to consult the original works, and in particular to examine a number of the skulls which may be found in any pathological museum. See Malacarne, in P. Frank, 'Delectus Opusc. Med.' vol. vi., lic. 1789, p. 241; Ackermann, 'Ueber die Cretinen,' etc., Gotha, 1790; J. and E. Wenzel, 'Ueber den Cretinismus,' Wien, 1802; Stahl, 'Neue Beiträge,' etc., Erlangen, 1848, 2d edition, 1851; "Clinische Studien," etc., 'Zeitschr. f. Psychiatrie,' xi., 1854, p. 545; ibid., xvi., 1859, p. 1; Virchow, 'Würzb. Verhandl.,' 1851, 1852, 1855, 1856, and 'Gesammelte Abhandl.,' Frankfurt, 1856, p. 891; "Untersuchungen über die Entwickelung des Schädelgrundes," Berl, 1857; "Ueber Knochenwachsthum und Schädelformen." Virchow's 'Archiv,' xiii., 1858, p. 323; Lucă, 'Zur Architectur des Menschenschädels,' Frankf., 1857; Gratiolet, "Mém. sur la Microcéphalie," 'Journal de Physiol.,' ix., Jan., 1860; Lambl, 'Aus dem Franz-Joseph-Kinderspitale,' etc., Prag, 1861.

We shall not occupy ourselves with those alterations of the cranium which are at present of little interest in connection with idiocy, such as the frequent partial *attenuations*, and the still more frequent, generally much less general, *thickenings* of the cranial bones, which so frequently constitute the sole palpable lesion in epilepsy, and the connection of which with that disease, and also with idiocy, is in many cases quite obscure; nor shall we consider, further, those rare cases of long-persistence, even to adult life,[1] of the fontanelles and such-like: but the principal object of our study is the consideration of those deviations in the development and growth of the cranium which impart to it abnormalities in form. We must here consider, especially—1st, anomalies of the arch, and, 2d, anomalies of the base of the cranium.

Many irregularities in the development of the *arch of the cranium* are produced by primary anomalies in the development of the brain: the ossification of the cranial bones remains behind, owing to the retarded growth of the brain; it is kept back owing to the entire brain or certain parts of it remaining small, by the non-symmetrical development of the brain, etc. Many cases of simple microcephalus belong to this form of anomaly; perhaps, also, many unilateral stenoses of the cranium, owing to closure of the sutures with inequality in size of the two cerebral hemispheres: in this case the ossification of the sutures is not the cause of the malformation, but appears rather to constitute the last stage of the changes. In these limitations from an internal cause, from the contents of the cranium owing to irregular development of the brain there are frequently formed a number of closed sutures—a circumstance of great importance in the determination of these relations: there result from this, general microcephalus, or partial or general expansion of the osseous arch of the cranium.

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[1] Stahl ('Neue Beitr.') found this in a man fifty years of age.

But, evidently, in by far the greater number of cases the deviations in form of the cranial arch are primary and independent of its contents —of the development of the brain. These depend, especially, upon *interruption of the growth of the bones;* and this, again, often appears to be owing to simple deficiency and incompleteness in the formation of bone substance, it may be from constitutional causes acting unfavorably on the general nutrition; especially, however, and most frequently, it is the result of an idiopathic morbid, apparently inflammatory, process in the sutures, the process by which the normal growth of the cranial bones proceeds, and which terminates in occlusion of the sutures. Thus, in whatever way a suture is prematurely ossified, the cranium becomes narrowed at that point, because the growth of the bones, which takes place at the suture, is arrested, and, of course, always in a direction perpendicular to the suture. This limiting of one part may, when it is considerable, extend its influence far beyond the part: thus, for example, very early synostosis of the arch of the cranium also affects the growth of the basis cranii, shortens or narrows it.

In many cases, there merely remains a contraction of the skull owing to the arrested growth of the bones, and the cranium is simply deformed. In other cases, however, corresponding dilatations are formed in other parts of the cranium, because the brain grows towards the side where it meets least resistance, because there the sutures are more distended by the growing brain, and consequently present more points of ossification, and perhaps there is a tendency even to exuberant growth. These so-called compensations correct the contractions in the cranial cavity, but they very often produce even greater deformity of the skull than was caused by the original contraction. When stenosis is once established, all depends upon these compensations for the normal development of the brain, and, therefore, of the mental faculties. These compensations themselves appear principally to depend upon an active growth of the brain, and, consequently, in these changes in form we have not solely to do with purely mechanical relations, but with a far more intimate nutritive relation connected with the condition, with the power or weakness of the general physical nutrition. In all considerable ossifications of the sutures, the compensations are seldom sufficient for the complete development of the brain, and, therefore, even with them the cavity of the cranium is generally too small.

A special and rare kind of compensation (incomplete) consists in the formation of the so-called *encephalitic protuberances* (Lambl)—protuberances on the skull, especially in the neighborhood of the sutures and fontanelles. These always appear to be connected with internal hydrocephalus, and are produced by the pressure of the compressed parts of the brain; they may even proceed to the formation of greater or smaller deficiencies in the osseous cranium.

The deformities produced by these stenoses may be referred to several principal types. When all or nearly all the sutures of the arch of the cranium become closed at a very early stage, there results simple uniform *microcephalus:* if the base of the cranium becomes also ossified, or should no compensation be formed there, the entire cranium, though small, is properly proportioned; but the growth of the brain is also uniformly and most profoundly disturbed. Should, on the contrary, a great compensation be made by the ossification of the basis cranii being rendered unusually slow, and consequently a much greater expansion of it rendered possible, there appears to originate from this a special type of physiognomical and physical development, and also of intellectual life, which we shall afterwards describe more minutely under the name of the *Aztec type.* Merely partial occlusion of the sutures of the arch of the cranium determines the following principal forms:—*Too narrow* crania (*i. e.*, when the transverse diameter is shortened) are caused principally by early ossification of the sagittal suture; more rarely, and rather with contraction of the frontal than the parietal region, by ossification of the spheno-frontal suture. Ossification of both sides of the suture between the occipital bone and the mastoid portion of the temporal bone may, as I found in the cranium of a semi-cretin girl of nineteen years, considerably diminish the whole inferior part of the cranium, situated between the two mastoid processes, and consequently the space destined for the cerebellum. In these crania, compensation takes place in the antero-posterior diameter, by enlargement of the frontal region and protuberance of the occiput. *Too short* crania are caused, behind, by ossification of the lambdoidal suture (the highest degree of absence of the posterior portion of the cranium causes the rare ape-like from of the so-called mask), and here compensation often takes place by development of the region of the anterior fontanelle (conical or sugar-loaf heads); in front, the shortening is caused by extended ossification of the frontal with the parietal bones, the cranium being, at the same time, very low. Other *too low* crania are caused by ossification of the wings of the sphenoid with the frontal bone and squamous portion of the temporal bone. Finally, the unsymmetrical obliquely narrowed crania are caused by unilateral ossification, anteriorly through ossification of one-half of the coronal suture, posteriorly through ossification of one-half of the lambdoidal suture; compensation takes place by increased extension towards the opposite sides. All these stenoses which we have enumerated, as they occur at a very early period, involve to the development of the corresponding portions of the brain: for example, unilateral stenoses are apt to cause shortening of one of the cerebral hemispheres, etc. These hindrances to the development of the brain are very rarely fully corrected by the so-called compensations, and are seldom without serious consequences.

It appears, morever, that dis-symmetry (and deformity generally) may be caused not only by partial stenoses, but also by local expansion; namely, by the immoderate development of ossa Wormiana: in particular, a special form of elongated cranium appears to be produced by the plentiful formation of Wormian bones.[1] According to Lambl (l. c., p. 26), scolioses of the cranium originate also in rickety children through displacement, owing to softness of the bones and long continuance of the sutures: finally, there also appear to be scolioses which cannot be referred to any of the causes which we have mentioned, but can only be attributed to an original disproportion in the energy of the growth of the bones at a particular part.

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[1] Virchow, 'Gesammelte Abhandlungen,' p. 902.

If the original primary obstacles to the development of the brain have a very great influence upon the development and form of the arch of the cranium, influences of this kind upon the development of the bones of *the base of the cranium* are, as yet, almost unknown, and all the changes which occur in this part of the cranium, when not compensatory or consecutive to changes in the arch of the cranium,[1] are in the present state of science to be considered as primary and independent anomalies due to disorders in nutrition of the bone and cartilage itself. These changes are almost entirely due to premature ossification of the base. As the growth of the bones in the arch of the cranium depends on the persistence of the sutures, the growth of the bones of the base depends upon the persistence of the cartilages; and the primature ossification of these cartilaginous surfaces arrests the longitudinal development of bones which enter into the formation of the base of the cranium, which must, of course, produce shortening of the base. More rarely, the ossification of the cartilaginous disc between the primitive anterior and posterior portions of the sphenoid bone produces this result: this is ordinarily completed at birth, or at least soon after it; it is rather the ossification of the synchondrosis between the sphenoid and the basilar portion, which in the normal state does not occur till the fifteenth year, and sometimes not till the twentieth year and even later: thus, the base of the cranium has, in the normal state, fully fifteen years to grow in the antero-posterior direction.—This shortening of the base of the cranium by ossification is followed by very serious consequences. Should it occur very early, it imparts to the basis cranii a form which is only normal at the middle of intrauterine life; namely, a great curvature upwards of the base of the cranium, a small angle at the point of union between the sphenoid and the basilar portion, a steep clivus: further, this shortening causes malformation of the face (cretin physignomy), which is characterized by prominence of the ridge of the nose (cocked-up nose); the roots of the nose are deeply set and very broad, the eyes widely apart, the orbits large but shallow, the cheek-bones high and prominent (Prognathismus). With limitation of the development of the base of the cranium are connected the further results of a shallow and transverse position of the sphenoid bone, and of a consequent lessening of the great wings, and of the central cavity connected with them. There is thus produced through this—together with a probable unfavorable influence upon the development of the pons Varolii and medulla oblongata from the abnormally formed clivus—arrest of development of the anterior and middle parts of the brain. Actual microcephalus may now exist; more frequently this is not the case, and there are produced various compensations, which, however, are not complete, probably on account of the deficient development of the brain. These compensations are produced partly by growth of the cranium upwards (conical heads), partly by elongation of the arch of the cranium with persistence of the frontal suture, or, finally, by moderate dilatation of the superior and posterior parts of the head.

The *tribasilar synostosis* forms the anatomical foundation, and, as it appears, the sole point of origin of *one* special form of cretinism which is specially represented in Alpine cretinism. Several of the older observers had already arrived at the perfectly correct conclusion that the fundamental lesion in this form is in the base of the cranium, and had very nearly come to the correct idea upon the subject. Ackermann said (1790), l. c., p. 33, "It is solely on the lower part of the basis cranii that the abnormal change exists which essentially constitutes cretinism;" and in page 119 he says, "It is this slight alteration in form of the occipital and sphenoid bones (he chiefly refers to the too horizontal position of the occipital bone) which constitutes cretinism." The Brothers Wenzel express themselves in quite analogous terms, l. c., pp. 54–59: "In cretins the surface of the base of the cranium is shortened, as if compressed in the antero-posterior diameter; the fundamental changes chiefly involve the base of the cranium," etc.; and further on, p. 206, "the anomalies of cretinism which sometimes show themselves even in the newly born child, are all of a nature such as might lead us to suppose that there exists a high degree of deformity in the basis cranii." Autenrieth also expresses similar sentiments (quoted by Wenzel, l. c., p. 218). This part of the inquiry, however, was altogether neglected in the subsequent investigations regarding cretinism. Stahl revived it (1848). The actual state of matters in this fundamental deformity of the basis cranii was, however, for the first time clearly elucidated by the investigations of Virchow. This observer has also shown that complete synostosis of the two parts of the sphenoid bone and the basilar portion may even occur during fœtal life, in which case the newly born child will present, in a marked degree, the physiognomical peculiarities of cretinism. It is self-evident that basilar synostosis, with shortening of the base of the cranium, not only does not lie at the foundation of all forms of cretinism (idiocy with physical deformity), but even is not always present in endemic Alpine cretinism. This, however, does not oppose the theory advanced by Virchow—it rather confirms it, owing to the circumstance that we occasionally find in individuals with endemic cretinism (as also in certain healthy persons) the sphenoid and the basilar portion not yet ossified after the age of twenty (Nièpce, l. c., ii., p. 118, 6th section;[1] Stahl, 'Neue Beiträge,' p. 70; 'Zeitschr. f. Psych.,' Bd. xvi., p. 368). The basilar synostosis gives rise to a special, but very frequent form of cretinism, possessing the peculiar physiognomical expression, and—to which the small size of body, the frequent complete dwarfishness, points—the cartilaginous epiphyses of the long bones of the extremities seem also to experience a similar arrest of development from premature ossification: therefore in these cases we ought not to attribute the stunted growth of the body, as we do in unilateral atrophy or in many microcephals, to the affectien of the brain, but to a *constitutional malady with premature ossification of the cartilages—to an affection* which, in many respects, is *diametrically opposed to rickets*. True rickets has never been observed to pass into cretinism; a circumstance of great importance in the treatment of these conditions.

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[1] Thus, for example, may synostosis of the superior cranial sutures, especially of the coronal suture, have a direct influence in shortening the base of the cranium.

The types of cerebral abnormalities which correspond to the various deformities of the cranium which have been described are as yet very incompletely known, and would form an interesting subject of investigation to those who have the opportunity.

§ 162. On reviewing what has been said regarding the anatomical foundations of idiocy and cretinism, we find that in a great number of cases there exist cerebral and cranial anomalies which must necessarily act unfavorably on the development of the brain. The two series of phenomena are very different in their nature; they cannot be referred to one type, nor to a single fundamental process. We must also carefully guard against recognizing in the special nature of an anomaly which is presented to us—for example, in hydrocephalus, or in a deficiency in the commissural system of the brain,—the immediate anatomical cause of the psychical disorder in question—of the idiocy. This anomaly, or this defect, may perhaps have no influence in regard to the special *psychical* disorder, and the latter depends upon the mode in which the existing, apparently quite normal, parts perform their functions. But those palpable and evident changes clearly demonstrate, on the one hand, that at all events the brain was diseased or defective; and on the other hand, we must remember what the elements are which gradually contribute to the development of the intelligence of the child—that the elaboration of the sensorial impressions and the formation of the internal impulses of movement constitute the special basis of the mental development—that disorders in the function of those parts of the brain which, perhaps, have little to do with the more elevated mental processes, but have great influence upon the development of the functions of the brain which relate to sensation and movement, may withdraw what is essential to the development of the mind by severing it from the healthy roots through which it is developed from the sensitive faculty.

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[1] It is worthy of remark, that in these cases the penetrating body was greatly hypertrophied, and contained a cavity in the centre; while in Virchow's case of a newly born cretin with complete synostosis, the pituitary body was very small—almost atrophied.

Regarding the mechanism by which each of these cerebral changes are produced, we know much which serves to explain their origin (intra-uterine cerebral inflammations, other fœtal diseases, synostoses, etc.); in regard to the cases of deficient development, there is a circumstance which seems to me to deserve more consideration than has yet been accorded to it, namely, that of abnormal narrowness of the cerebral arteries, which may be either a primary defect in development, or the result of an abnormal state of the bones with contraction of the foramina (contraction of the carotid canal from abnormal state of the sphenoid bone?).

This contraction of the arteries was very prominent in the anterior Sylvian fissure and on the basilar portion in several of Nièpce's cases; in three cases of endemic cretinism, also, the vertebral and basilar arteries were very small. (Report of the Sardinian Commission, p. 204.) I found both carotid canals, but especially that of the right side, very narrow in the cranium of an idiotic girl with poverty of the brain and inequality of the hemispheres. May not premature thickening of the bones of the basis cranii have this effect? May not this factor play an important part in compensating for deformities of the base which have been brought about by the pressure of a brain growing with morbid activity?—and, again, where this growth is rendered less active by narrowing of the arteries, will not less compensation be required?

§ 163. As all the various diseases of the brain and its membranes which occur during intra-uterine life and in childhood agree in this, that they impede the complete development of the brain, therefore all the mental disorders of childhood must have the same result, namely, that of impeding the development of the mind. This disordered development manifests itself in anomalies of all the mental faculties, and these are far from being the same in every case of idiocy: therefore, each case ought to be specially investigated, in order to discover in what manner the mental mechanism is disturbed. Here, therefore, we must content ourselves with a *general consideration of the disorders of the mind.*

Anomalies of perception.—In *severe* cases, the sensorial impressions produce very few ideas: these are so fleeting and so superficial, that they soon again disappear, and the process of abstraction does not proceed, so that they continue isolated—as entirely or half sensorial ideas. There is likewise a deficiency in the production of ideas, as well as in their—which occurs involuntarily in health—movement and elaboration,—that combination with other ideas which render them a part of our inner consciousness; there is no regular subject of thought which might powerfully grasp the new ideas, determine the impulses of will, form opinions—which, in a word, could constitute an *ego*. We observe, also, loss of the powers of attention and reflection; they have no memory, no mental spontaniety: in extreme cases we can discover no germ of individuality which might be compared to the healthy *ego;* no trace of a mental personality.

These defects in concrete cases are not only manifested in various ways, but the phenomena themselves may also be altgether different: in the one, that perhaps is destroyed which in another never existed, in the one the sensorial element may be at fault; in the other the abstractive element, etc. There are many idiots in whom we can discover actually no symptoms of mental life—neglected children of nature, completely unconscious of the world and of time, who exist in a state of profound dream; are completely strange to all that goes on around them, and show no other spontaneous sign of life than devouring the food which is placed in their mouths. The animal perceives the external world; it is complete in its special organization; it is capable of expressing its impressions, its sensations and desires, with the means of gratifying them. In this respect these poor idiots stand far below the healthy brute, but withouton that account—which very curiously is possessed even by them as a leading characteristic—being deprived of humanity. In many others the clear consciousness of a special personality, thought, and almost the very attempt to speak, even by gestures, are wanting; but a greater degree of perception of the world penetrates their state of dream, and they present at least a commencement towards finding their position in it. An idiot of this kind does not, for example, wait till some one removes the finger which he has just bitten from his mouth, but can accomplish this himself. They recognize their attendants, the preparations for meals, etc.; they feel a desire for muscular motion, which is performed in the most uniform manner;[1] gradually acquire a mechanical knowledge of certain words, orders, etc., which they execute automatically (they do this, however, in a manner quite different from that of healthy children, without regarding the speaker or manifesting any expression of countenance). From these types of extreme degradation there are numerous gradual transitions to somewhat better states, in which the external world becomes more and more recognized and elaborated in an elementary fashion. From this a small store of knowledge is accumulated, and the possession of an *ego* capable of simple functions is rendered possible. It is a remarkable fact that sometimes the excitation of an acute disease[2] calls forth manifestations of mind and capacities which, in the ordinary state, lie latent. This permits the conclusion that in certain idiots there is more received into the mind and there elaborated than one might be led to suppose, which, however, cannot be expressed by them, although it leaves its traces behind.

A leading characteristic of all severe cases of idiocy is the complete absence of speech, so that not even the attempt is ever made, or speech so very imperfect as to be called idiotic dumbness (not dependent upon want of hearing). It depends upon want of ideas, or want of reflex action from the perceptive to the motory faculties to the mechanism of speech: the first have nothing to say, the second "have no desire to speak." The idiot who does not speak, has, likewise, no internal idea of speech, and, therefore, is deficient in the most essential element in the mechanism of abstraction.

The relations of speech are so interwoven with the whole process of mental development, and so necessary to education and intellectual advancement, that the classification of idiots according to their capability of speaking (generally into three degrees) is one of the best that can be established.

According as these idiotic states become less profound, more ideas may be formed and combined to simple judgments and conclusions.

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[1] I know a boy, fourteen years of age, a little microcephalic, but otherwise well formed, who, every day all day long, pushes out and in a drawer, and rattles two keys.

[2] See Nièpce, 'Comptes rendus,' 37, 1853, No. 16: Case of an idiot who was seized with hydrophobia. Usually he could not articulate more than a few words, and now he spoke fluently about things which happened years ago, and to which he at the time appeared to pay not the slightest attention.

But that prompt, involuntary blending of the ideas, by which the process of abstraction is rendered easy, not a laborious act forced by frequent repetition, is entirely wanting; there is no lively mental reaction, strong impressions are required to excite it: therefore, the indifference and lack of interest in the affairs of the external world manifested by these persons, their perpetual immobility to sensorial impressions, and their extremely limited spontaneity. On closer investigation, they manifest differences in their intelligence which, in many, become actual peculiarities which are not amenable to the ordinary means of education.

With the growing receptivity dependent upon increasing capability of function of the apparatus of thought in the brain, the conceptions and ideas become more numerous, the speech more perfect, and, in the end, even reading and writing are possible; there is increasing intercourse with the external world. But to accomplish several mental processes at the same time or in rapid succession is impossible: therefore, the understanding is in general slower, the judgment uncertain and diffident; the sphere of comprehension can only be caught at its borders, and this even under foreign guidance; memory is the only accessible way to education; the individual in a very simple sphere of life is satisfied with moderate demands, rational thought and action, and makes himself useful by performing that sort of work which exercises the imitative rather than the initiative faculties.

The remarkable one-sided aptitudes and talents occasionally displayed in the slighter degrees of idiocy are rather of a semi-conscious instinctive character, and may be compared to the instincts of animals. In these cases, certain series of ideas rapidly and easily develop themselves, and with them appear the means for their correct and evident manifestation —mechanical, musical, arithmetical talent, memory for words, signs, etc. We never find these special aptitudes in cases of idiocy occurring accidentally, occurring in once healthy children in consequence of cerebral disease in early youth, but only where the disease is hereditary or endemic.

In the beautiful asylum for idiots at Earlswood, near London, I saw a young person who had, quite unaided, built a very pretty and large model of a war-ship; he was of limited mental capacity, and had, in particular, *no idea of numbers.* We frequently see persons in profound idiocy execute (purely mechanical) curious works of design and painting. Morel ('Etudes Clin.,' i., p. 49) recites the remarkable case of a speechless idiot who had a special gift of playing on the drum; his grandfather had been drum-major and his father drummer in a regiment; his brother had always had a desire (which, however, was not gratified) to become a drummer. The remarkable memory for places also exhibited by certain idiots of low mental capacity is very analogous to these special talents.

It would not be altogether correct to judge of the severity of the cerebral lesion by the degree of mental weakness; a great deal here depends upon the locality, upon the social medium in which the child lives. Children who have been well cared for, with whom persons have taken some trouble, whose minds have been properly directed, behave very differently from those whose education has been neglected, and whose minds have been excited, although the cerebral disease may have been quite as severe. We observe also that, in the cretin districts, those who roam about, who go about the villages begging, etc., are far more intelligent than those kept constantly in the house. All education is, of course, useless in the very lowest degrees of idiocy.

§ 164. *Anomalies of self-consciousnes, the desires, and the will.*—In general, the state of these faculties corresponds exactly to the degree of weakness of the intellect: nevertheless, even in severe cases, the naturally existing feelings and dispositions proceeding from the body, with the excitations proceeding from it toward the emotions and the will, always present a great field of psychical activity. In the most profound cases of idiocy, the joyful and painful emotions (anger, etc.), are entirely connected with bodily sensations, or they appear to originate immediately, entirely without motive, through obscure changes in the state of the brain and nervous system. The habitual nature of these emotions, which has become persistent, gives to the lowest grades of these a something which may be termed their individual disposition, their character. In this respect we may, in severe cases, establish extreme types: on the one hand, those grim, sometimes truly fearful, almost ferocious, and often wild and fearful idiots; and, on the other hand, those who, with absolute want of intellect, constantly exhibit a joyful and gay disposition,—who, with always—about nothing—laughing features and good-humored eyes, bear the expression of good-nature and complacency. In profound idiocy the efforts and determinations are principally set in motion by the instincts, above all by the instinct for food; most of these acts have the character of half-conscious reflex actions; certain simple ideas which have become persistent—for example, pleasure in playing with little strips of paper, etc.—can again excite volition. It is self-evident that the acts of these idiots do not proceed from free choice, not from actual volition; there exists in them no *ego*, or at all events merely a trace of it, and in many cases—but not belonging to the most degraded class—we are frequently led, on observing their instinctive acts, to ask ourselves, Is there anything in them which represents a will? and who or what can will in them?

In many idiots of the lowest class, eating is the only thing which seems to move their soul: the most debased manifest this desire by restlessness, grunting noises, etc., those a little higher in the scale move their hands and lips in a certain manner, or weep till some food is given them; they "*want*" to be fed. In the lowest forms we also occasionally see rapid changes of humor, occurring without external motive; for example, at one time the expression of fear, or wish to go away, or sudden aversion to an accustomed amusement, or they become angry at it. This anger is often very violently expressed by scratching, throwing the arms about, biting, etc., even to actual mania. Those capricious emotions observed in certain individuals are quite inexplicable, as, for example, the appearance of all the signs of joyful excitement whenever they see a piece of paper, or the manifestation of the most tender regard towards some particular child, while they appear to take no notice of anything else; a good-humored idiot, when taken ill, commencing to scold himself, to knock his head against the wall, etc.

In the *slighter cases*, inconsistency and dulness of the emotions, and weakness of will, are also general characteristics: the disposition, therefore, very much depends upon the surroundings, and the treatment to which the individual is subjected. Under good treatment, for example, in the idiot asylums, most of these children are good-natured, obedient, happy, and sociable; when maltreated, they become embittered and malicious; in some there habitually exists a melancholic or more excited frame of mind. In the localities where cretinism is endemic, we seldom observe any agreeable traits of character in these idiots. The higher degrees are characterized by great dulness of sentiment; they are unsociable amongst themselves and repugnant to each other. The semi-cretins, whose good-nature "has its origin neither in the head nor in the heart, but in the stomach" (Maffei), are still incapable of any real affection, or even attachment, or, indeed, of any human feeling; they are rude egotists, whose desire for idleness can only be overcome by force, or by the prospect of enjoyment.

§ 165. *The anomalies in the senses and in the movements* observed in a great number of idiots are extremely important. In severe cases these, especially the latter, are always present, although in very different degrees; they generally depend immediately upon the morbid state of the central nervous apparatus. As a rule, the sense of sight is the best; and when it is affected, it appears to depend more upon affections of the eye itself, which is affected by amblyopia, than upon the state of the brain: strabismus, in all its degrees, is frequent. Hearing is frequently dull; frequently, however, it is very difficult to distinguish whether actual deafness exists, or only complete want of attention. Smell and taste are generally imperfect (the olfactory bulbs are often imperfectly developed): we seldom see idiots smell things like animals, and rejecting what does not please them; many appear to be alike indifferent to all impressions of smell, and likewise of taste, so that they put the most unclean things into their mouths—eat nettles, excrement, etc. Others exhibit a special aversion towards certain kinds of food, as beef, and will eat only milk and bread, and such like. The cutaneous sensibility is very dull; in many, very little pain can be excited in the skin, and examples occur of extended actual anæsthesia. This does not apply to the severe cases: in many semi-idiots, or those in whom development has been simply arrested, sensibility to cold and to injury does not exist; in these cases the sense of hearing is always weak.

The anomalies of movement consist in convulsions, contractions, and paralyses. The convulsions are sometimes local—for example, in the toes, in an arm or leg; sometimes more general, when they not unfrequently resemble chorea. But the most serious of all are the epileptiform convulsions, which constitute an extremely fatal compliction, and one which is very unfavorable in a prognostic point of view, and extremely frequent in severe cases. Frequently, the acute cerebral affections (§ 365) which occur about the period of dentition, or somewhat later, constitute the point of origin of epilepsy, as of idiocy itself; there are cases, always of the most serious description, where the epileptic convulsions are for years daily repeated. Evidently, the epilepsy is generally a symptom of the disease of the central nervous apparatus, which determines the deficient mental development, and then appears simultaneously with or not till long after the commencement of the idiocy (sometimes not till the period of puberty); but certainly there are also cases where a different relation exists between the two series of symptoms—where the epilepsy is entirely to be considered the primary and chief disease, and the mental weakness and the result of the violent commotion and exhaustion of the cerebral functions caused by the frequent attacks, just as we occasionally see in the adults, especially after the first rapidly repeated epileptic attacks, extreme dulness and general derangement of all the mental functions, which lasts for several days.[1] The contractions are more frequently partial—of the toes, of the sterno-mastoid muscles, spasmodic club-foot, etc.; sometimes they are more general, as, for example, of the knee-joint, so that the heel is kept firmly pressed against the nates. Paralytic conditions are much more frequent. Many of the most degraded idiots can neither stand nor walk; the lower extremities are relaxed, stiff, or atrophied, owing to which slight convulsive movements often take place in them. Frequently, there is a condition of muscular weakness with premature fatty atrophy; the limbs remain small, have a purple hue, and are always cold, as has been observed in the so-called "paralysis of children" (Heine). From this there are all possible kinds of transitions to more partial forms of paralysis, paralytic club-foot, etc. Many of these paralyses are in severe cases referable to the cerebral affection itself; others, as it appears, to a coexisting disease (atrophy) of the spinal marrow; the electric contractility is also much diminished (Zuradelli, 1860). In the slighter cases of idiocy—in the semi-cretins, for example—we frequently observe not only the general feebleness of body, the uncertainty of gait, the helpless use of the hands, but also many indications of spasmodic and paralytic muscular affections, imperfect development or atrophy of certain groups of muscles, or of a complete half of the body.

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[1] I have already expressed this opinion in the 'Twelfth Annual Report of the Asylum at Mariaburg,' Tübingen, 1859. Should we succeed by very early and appropriate treatment in removing the epilepsy, we may also hope to improve the idiocy; very soon, however, these cases become incurable when the epileptic attacks continue, and are frequently repeated. I shall communicate the result of my numerous observations of this disease during the last few years in another place.

It is interesting to observe the automatic movements, and the entire outward demeanor, particularly in the severe cases. In these feeble and, often, so peculiar manifestations of a perfectly stunted intelligence, there exists something which provokes us to problematic conjecture; but who can determine what shall be the answer? In many of these children, continuous rocking, swinging movements are observed, accompanied by monotonous singing, murmuring tones which form a sort of cadence; others continually shake their head, constantly suck their fingers, frequently clap their hands, beat violently against the wall, puff and blow with their mouths, etc. A very peculiar circumstance which is sometimes observed, is the rapid carrying of the hand to one of the eyelids, whereby the eye becomes rubbed, compressed, or even displaced (will they see double?). The expression of countenance and whole bearing of these degraded idiot children manifest complete nullity of the intelligence, with unprovoked alternations of superficial emotions (laughing and weeping), movements like the undulations caused by a gentle breeze upon the calm sea.

In many of the most severe cases of idiocy, the sexual functions are entirely absent; the genital organs are frequently small and stunted; the menses are long in appearing, not until after the twentieth year, or perhaps they do not appear at all: nevertheless, cases of extreme idiocy sometimes occur, in which the menses appear at the proper time and continue regular. Pernicious sexual habits are, even in severe cases of idiocy, quite as frequent as they are destructive to what remains of the mental functions. In the moderate cases of idiocy, the sexual functions also present great differences; but, as a rule, they are more generally diminished than increased. Conception, it is true, sometimes occurs amongst semicretins; but all that has been said regarding the exaggerated sexual instincts of idiots is false, and only based upon the shameless demeanor of certain individuals belonging to the class of semicretins.

A thick, fleshy tongue, which sometimes causes the incisor teeth to protrude—copious salivary secretion—unequal, irregular, and carious teeth, are frequently found in idiots of every degree.

§ 166. Hitherto, in describing the symptomatology of idiocy merely, the most general traits drawn from a great number of cases of all degrees have been depicted; we shall now mention a few more points, to direct us in the midst of the very various symptoms presented in individual cases.

In all idiotic states, two fundamental forms may be easily distinguished, which in their extreme degrees differ widely from each other, but, of course, in many moderate cases are not so distinctly pronounced, viz., *the apathetic* (dull, torpid), and *the excited* (versatile, agitated). The profound idiots of the first category have frequently an awkward, clumsy, and disproportioned body, and repulsive, old-looking features; the dulness of their movements, their passiveness—their stupid, monotonous, unexcitable demeanor—cause them in many cases to appear as if they were in a state resembling sleep; many have a brooding, melancholy look, while others have only the expression of utter indifference, want of thought and of mind. Those of the second category are really much deformed, but generally remain far behind their years; sometimes they are proportionate and even well formed, and of fine but delicate appearance. They are restless in their movements, quick, irritable, rapidly change their impressions; but they are extremely absent, and in the higher grades utterly incapable of fixing anything on their mind. It is often astonishing, when we see the happy expression and apparent activity of these children, to find that they are utterly incapable of speech and void of understanding. In many cases the behavior is often so excitable and turbulent, moving the body, jumping about, gesticulating, laughing, weeping, crying, all day long, that it actually appears to pass into mania (see p. 103). In this, the excited form, extremes are much more rare than in the apathetic form, and the slighter cases are more capable of improvement than the corresponding degrees of torpidity.

Besides these two principal groups, we find ourselves constrained, on glancing over numerous cases of idiocy, still further to distinguish certain well-marked varieties upon the basis of the external characteristics, and with regard to the mental peculiarities.

1st. Children perfectly well-proportioned and well-developed for their age, apparently in good health—if no disease exist in other organs—with a pleasant expression of countenance, and, as a rule, microcephalic. The mental development may remain at the lowest grade, or have advanced to various degrees; they are generally moderately versatile, but sometimes apathetic, with lifeless, rather automatic movements, sometimes with weakness of the lower extremities. These cases are not only always sporadic and extremely rare, but they seem to be the result of altogether accidental cerebral affections, occurring in previously healthy and well-developed children without any hereditary disposition, without any degenerative element, without miasmatic influences, etc. In these cases, the physical development proceeds properly, in spite of the cerebral affection.

2d. Children in whom the physical and mental development is simply much retarded. The interesting extreme cases of this kind present a complete arrest of development at an early period of life; for example, at the age of from four to six, with all the peculiarities of that age, without considerable deformity or degeneration. These cases are diametrically opposite to the other remarkable extreme of an extraordinarily rapid bodily development (where, in certain cases, children of four to five years, and even earlier, have already attained to a considerable degree of physical development, and presented the symptoms of puberty). It appears admissible, at least in certain cases of this kind, to compare them with those arrests of development which, in atrophy of one of the cerebral hemispheres, involves the opposite half of the body, but here, where both hemispheres are affected, involves both sides: but these cases would require to be studied anew, of which they are well worthy.

Dancel (1837 and 1843, 'Acad. des Sciences') has communicated the case of a young woman, æt. 24, whose development proceeded normally up to the age of three and a half years, when it was suddenly arrested. At the age of eighteen and a half, she was 94 centimetres in height; her mental state was that of a child of three and a half years. At twenty-one, she grew a little and attained the height of 96 centimetres; from that time forth, her condition remained stationary.

Baillarger presented before the Academy of Medicine (26th May, 1857) a young woman, æt. 27, who had the intelligence and inclinations of a child of four years: she is about three feet high, the body very fat; the second dentition commenced when she was eighteen, and at twenty-seven was not completed. Menstruation had not yet set in.

I know of another remarkable case of this kind, in which, in consequence of a blow on the head during childhood, the development which had till then been normal was completely arrested.

If, however, the extreme cases of this kind are very rare, the moderate cases are, on the contrary, extremely common. They constitute the numerous class of children stopped in their growth (enfants arriérés), whose peculiarity consists in the circumstance that without special deformity, with no symptoms of cerebral disease, the whole mental and bodily development proceeds very slowly. Those individuals are all small; their sexual system—with certain exceptions—is late in developing, and sometimes is never developed at all; at the age of twenty they resemble children of ten or twelve years; they may be well-proportioned, but more frequently they present all sorts of defects—distorted countenances, clumsy features, the root of the nose impressed, strabismus, dulness of hearing. Mentally they are distinguished from true idiots by the greater capability of development, which only proceeds much more slowly than in other children; they learn to walk, to speak, to write, but at a much later period than in health; they are incapable of occupying themselves with several subjects at the same time, and consequently of making comparisons; they are accessible, and capable of improvement through the memory and imitative faculties, but only make progress when they are assiduously and specially treated, schooled, and instructed. It is those cases which are proudly exhibited as examples of "*recoveries*" in idiot asylums. Should they, at the same time, happen to be epileptic, if they are addicted to onanism, all mental impulse is wanting; they become gradually more degraded, and at last completely idiotic.

In this very numerous class we again find many, physically and mentally, peculiar types; as, for example, children who remain so small that they are actually dwarfish, with round forms, slow, easy movements, an expression of great benevolence and good-humor; these little fellows have sometimes something extremely droll and humorous in their manners and actions: they, however, though extremely good-natured, have many childish peculiarities, and are only capable of education if carefully treated, have affection for their instructors, and give them no trouble. An extremely dangerous class is formed by those weak-minded children with instinctive (congenital) evil desires to mischief, cruelty, theft, drunkenness, etc., which sometimes nothing can suppress. These individuals, when their intelligence is such as to permit them to remain out of an asylum, afterwards furnish a numerous contingent to our prisons and houses of correction; their state is frequently evidently hereditary, and their habits are by no means identical with the evil desires which are developed in children through the example of their seniors.

3d. The sinosto-basilar form; *cretinism* in the proper sense of the term. The extreme degrees of this form are to be found only in the localities where cretinism is endemic, and particularly in the mountainous districts, and even in these countries it appears to be less common than it used to be; even the moderate degrees present the deformity and ugliness characteristic of cretinism. Generally, the head is disproportionately large; the features old-looking; the body small, thick-set, and often child-like; the lips thick, the eyelids puffy, the nose large and deeply impressed at its base; the body is often swollen and puffy-looking, owing to hypertrophy of the skin and subcutaneous cellular tissue; usually also goitre is present: in the higher degrees they scarcely resemble human creatures. Their mental life has altogether the character of apathy and torpor; they are deaf and dumb, and sometimes inclined to outbreaks of savage anger. In opposition to the theory that these states are actual monstrosities (Rösch, Virchow), we can always show that the malady frequently does not commence till after birth, and that in its moderate degrees it is capable of some degree of improvement (see § 169).

4th. A form in every respect quite the opposite of the foregoing is that which has been termed the *Aztec type.*[1] These Aztecs are microcephals, whose bodies remain small but well-proportioned, slender, sometimes even elegant in form;

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[1] Very good examples of this form were some years ago exhibited as the reputed remnant of the extinct American Aztec people: therefore the name.

the base of the nose is generally high, so that the forehead passes straight into it. These little beings are extremely lively, their movements sprightly and well co-ordinated; they are happy, easily excited, inquisitive, but very capricious, little capable of attention, and of weak intellect, although many of them can speak correctly. The very interesting investigation of Gratiolet (three cases, l. c.) showed a very small cranium, the bones thick, and synostosis of the arch: the basis cranii, on the contrary, was very slightly ossified; the basilar portion almost quite cartilaginous; the petrous portion and ethmoid bone were rather larger than normal; the space for the cerebellum was enormous in all directions. The brain of these microcephals may present fewer convolutions than that of the ourang-outang or chimpanzee; the cerebellum is very large, as is also the spinal cord and medulla oblongata. The organs of sense and their nerves are well-developed; the state of the convolutions shows that the condition existed before birth. The exuberant development of the more spinal portions of the brain, in contradistinction to the hemispheres corresponding to the compensatory dilatation of the basis cranii (see § 161), corresponds to the peculiar anomaly of the functions which constitutes a direct opposition to that presented by the form with diminution of the basis cranii. Here also extreme examples are rare, but in most idiot institutions examples may be found which represent the moderate degrees of this type: I, myself, prefer to call it the "bird-like form;" and the small, low or short head, aquiline nose, and lively movable eyes, strongly remind us of the physiognomy of birds.

5th. Certain idiots, in their physiognomy, habits, and demeanor, resemble in a still more specific manner *certain species of animals.* Some strongly resemble apes (well-marked microcephalus), others forcibly remind us of swine. The following case observed by Pinel affords another rare example belonging to this category:—An idiotic girl, eleven years of age, resembled, by the form of her head, by her desires and capacities, a sheep. She manifested aversion towards animal food, ate only vegetables and drank nothing but water; her whole speech consisted in *bĕ, ma tante*, whereby she showed her attachment to her nurse: she also, like a sheep, laid her head on the abdomen of her nurse; when fighting with other children, she butted them as a sheep does; when wishing to fall asleep, she curled herself on the floor. Her back, shoulders, and loins were clothed with a kind of soft black hair, one to two inches long, which much resembled wool.

Further observations in asylums will afford material for the discovery of other types, the arrangement of forms, and, finally, for referring them to characteristic fundamental disorders. The opposite types—synosto-basilar and Aztec—are specially worthy of further anatomical investigation.

§ 167. As to the *course* of the various cerebral affections which lie at the foundation of the different forms of idiocy, it is self-evident that very little can be said upon the subject generally. The process which has caused the arrest of development may have already in great part disappeared at birth; in which case all mental processes are from the commencement very feeble, speech is not developed, etc., and they all remain stationary. Or the cerebral disease (which perhaps may be hereditary) does not commence until mental development is actually begun, and it may be either an acute or a chronic insidious affection. The mental development ceases to progress, and even generally recedes; speech is often forgotten, and the expression of stupidity and mental poverty becomes dominant It is especially in hydrocephalic children that acute attacks of cerebral excitation of greater or less severity, with symptoms of cerebral congestion, are frequently repeated: after each of these the obtusion and apathy become more profound and persistent. Epileptic convulsions exercise in every case a prejudical influence upon the psychical symptoms. The cerebral disease in idiots is generally of a nature such as by itself causes death very slowly (for example, high degrees of hydrocephalus, perhaps also of atrophy of the brain), or gives rise to intercurrent fatal processes in the cranial cavity (death by meningitis, acute effusions, etc.). But even should this not be the case, still many idiots die during childhood: this may be because many injurious influences act more strongly upon them than upon healthy children, or because their power of resisting disease is less. It is, therefore, rare to see idiots attain a great age; they are most frequently seen in countries where cretinism is endemic, where examples may be met with of cretins of sixty or seventy years of age. The reader need scarcely be reminded how much depends, in all such questions, upon the external relations, care, etc.

§ 168. Improvement takes place in many cases of idiocy. It is rarely that, under the influeuce of a favorable change in the entire physical health, the child becomes lively and studious within a short time, and continues to make rapid progress. More frequently, improvement consists merely of a more free and more regular employment of the existing fragments or remnants of intelligence, be they greater or less; and this result can only be attained very gradually, in the course of many years. The first condition necessary to all improvement is the complete cessation of the cerebral disease which occasioned the idiocy.

By cure of idiocy, must be understood the complete removal of the cerebral disease which hinders the mental development; a process whereby cultivation of the intellect by education and instruction would be rendered possible. Recovery in this sense can only be considered *possible* in certain cases, viz., when the cerebral affection is simply functional (§ 156), or when, at the commencement of a palpable cerebral disease in childhood, the morbid process can still be arrested: in certain chronic processes (for example, due to the influence of syphilis or other chronic constitutional anomaly), this period is sometimes of long duration.

As a rule, however, the morbid processes have entirely or almost entirely run their course before the idiocy is recognized. Then we have to deal with residues and consecutive states; and these offer the greatest resistance to spontaneous or artificial recovery, inasmuch as, owing to them, the *development* of the brain, its normal growth within a given period, is interrupted or impaired. In all these, constituting the immense majority of cases, the utmost that can be attained is successful improvement of what remains of the psychical faculties, intellectual, sensitive, and motory; the highest aim of this improvement is a certain capability of self-direction in life, the possession of a few correct moral ideas, and a certain degree of practical usefulness, without, on that account, all traces of the idiotic condition being effaced. Here, therefore, we can only speak of *improvement:* this, however, may be of extreme advantage to the individuals themselves, as well as to their relatives, and the existence of idiot asylums must be considered an actual necessity.

From what has been said, it is evident that the treatment of idiocy must consist, on the one hand, of therapeutical (hygienic and medicinal) treatment, and, on the other, of education, not only of the mind, but also, and principally, of the organs of sense and of movement, awakening and developing the faculty of speech, practice in the correct performance the functions of ordinary life.

By far the best rules on this subject are to be found in Séguin's 'Traitement des Idiots,' Paris, 1846. We may also refer to Kern, 'Zeitschrift f. Psychiatrie,' xii., 1855, p. 521; Damerow, ibid., xv., 1858, p. 499; Guggenbühl (together with many other works), 'Zeitschrift der k. k. Ges. des Aerzte in Wien,' 1860, No. 6.

B. *Endemic Cretinism.*

The following works, besides those mentioned in § 161, are the most important on the subject of Cretinism in the strict sense of the term:—Fodéré, 'Essai sur le

Goitre et le Crétinisme,' Turin, 1792; Iphofen, 'Der Cretinismus,' Dresden, 1817; Maffei und Rösch, 'Unters. über Cretinismus,' 2 Bde., Erlangen, 1844; Meyer-Ahrens, 'Häsers Archiv,' 1845, p. 360; Prager 'Vierteljahrschrift,' Bd. xlii., 1854, p. 99; Behrend, 'Journal für Kinderkrankheiten,' 1846, Juli; 'Rapport de la Commission créée par S. M. le Roi de Sardaigne,' etc., Turin, 1848 (indispensable for the study of cretinism); Ferrus, 'Acad. de Médecine,' 10th and 31st December, 1851, and Discussion; Rösch, 'Beobacht. über den Cretinismus,' Tübingen, 1850–1852; Nièpce, 'Tr. du Goitre et du Crétinisme, 2 Bde., Paris, 1851, 1852; Billet, 'Ann. Méd. Psychol.,' 1854, pp. 339, 362, 530; 1855, p. 41; Morel, ibid., p. 334; West, 'Journal f. Kinderkrankheiten,' 1854, xii., 7, 8; Köstl, 'Der endemische Cretinismus,' etc., Wien, 1855; Fabre, 'Traité du Goître et du Crétinisme,' Par., 1857; Morel, 'Traité des Dégénérescences,' etc., Par., 1857, and his two later works ('Clinique,' 1852, and 'Traité, 1860); Erlenmeyer, 'Archiv der D. Gesellschaft f. Psychiatrie,' i., 1858, pp. 13, 97; Theile, 'Ueber Cretinismus;' Schmidt's 'Jahrb.,' 1860, No. 7; Zillner, "Ueber Idiotie," in 'Nova Acta Cæsar. Ac. Leop.-Ca.,' xix., 1860.

§ 169. The distinction between sporadic and endemic idiocy depends, in the first place, upon a simply quantitative relation, the greater or lesser frequency of the affection in a given population. But in this distinction there are contained still other legitimate differences in quality. The *causes* which render idiocy so frequent in a particular locality are generally (not unexceptionally) *peculiar;* indeed, sometimes specific (miasmatic), and excite *peculiar diseases* which lead to idiocy. Sporadic idiocy may be owing to *any kind* of infantile cerebral disorder; endemic idiocy, likewise, does not always depend upon the same anatomical changes, but rather upon a certain class of changes which in particular primarily affect the skull more than the brain. These *latter* affections are much more associated with general physical deformity—a deformity which is altogether special to cretins, and associated with the disease of the thyroid gland. There are also certain qualitative differences between endemic and sporadic idiocy which cannot be disputed, inasmuch as the well-marked forms of the cretin districts which are very common, or were so till very recently in those localities, are never met with sporadically in the same form.

I can readily understand how observers, in those countries where cretinism is endemic, could be led to deny the existence of any distinction between endemic and sporadic idiocy. They dwell in the midst of a population who bear generally a trace (more or less evident) of cretinism, and they are not in a position to observe cases of accidental cerebral disease which may occasion idiocy without any physical deformity, where, as we have already several times remarked, well-developed and beautiful children present the complete intellectual nullity of profound idiocy. As it is very rarely that the well-marked deformity peculiar to profound cretinism occurs sporadically, it is also seldom that we see such sporadic cases occur in the form of endemic idiocy: such cases may, perhaps, occasionally occur in the cretin districts (for example, cases of accidental encephalitis or of cerebral defect), but certainly these are, in the first place, to be distinguished from the principal prevailing diseases which lie at the foundation of the endemic cretinism. And it may, moreover, be asked—special observations do not appear ever to have been made on this point—whether these accidental diseases, in a generally infected population, do not assume the form of the prevailing degeneration. In England, idiocy is not rare—in many parts it may even be said to be frequent—but those unsightly deformities (Alpine form) are never seen; there is, therefore, a great difference between frequent idiocy and "cretinism." Virchow also says, endemic idiocy is not cretinism; he, however, considers the difference to be altogether etiological; that which originates from conditions of the soil, of the locality, is cretinism; that which results from social conditions is idiocy. Unfortunately, he does not tell us how we may certainly distinguish all which originates from territorial and all which arises from social conditions. Besides, what may not be comprehended under the term "social conditions?"

§ 170. Regarding the *propagation* of idiocy as an endemic disease we have here a very little to say.[1] In the first place, we have the important fact that endemic cretinism is always accompanied by endemic goitre, and in such a manner that we are, in some degree, authorized to recognize in both the effects of one and the same morbid cause, which only acts more strongly in a certain series of cases, and in some its effects are more widely diffused (affection of the cranial and of the bones generally) than in others (simple affection of thyroid gland). Thus it is that the great majority of cretins have a large goître, which is sometimes congenital and sometimes developed after birth, and which in general assumes a rapid growth about the period of puberty. It is rare, indeed, to find no trace of goître; even the semi-cretins and a large proportion of the healthy population of these districts are affected by it. The great centres of these two diseases are in all parts of the world the great mountain chains and their connections—in Europe the Alps, in Asia the Himalayas, in America the Cordilleras. The sea-coast is altogether exempt from these maladies; in flat inland countries or in mountainous districts of the second or third class, they are very unequally distributed, and we cannot, as yet, state with certainty the common cause of these differences.

In Europe the countries in which cretinism is most frequent are, Savoy; many parts of Switzerland, particularly the cantons of Valais, Grison, Uri, Vaud, Argow, etc.; more towards the east, Salzburg, Styria, Tyrol, Carinthia, Upper Austria: next in order come several regions in the Pyrenees, the mountains of Auvergne, certain parts of the valley of the Rhine, in the neighborhood of Strasburg (above all, in plains which are often inundated); the Island of Mederwörth (which is frequently inundated), then lower and middle Franconia, many parts of Würtemberg and the grand Duchy of Baden. These are the localities which, at the present time, are known as the chief centres of endemic idiocy, accompanied by goître and physical deformity.

Naturally, attempts have not been wanting to refer the origin of the disease to certain definite relations in the cretin districts. Each observer attached most importance to the circumstances which seemed most striking in his district, and in this respect everything which could possibly be brought forward has been discussed: sometimes a certain height above the level of the sea (not more than from 2–3000 feet), deep damp valleys, stagnation of the air, frequent inundations with marshiness of the ground; sometimes high temperature, great and sudden changes of temperature; sometimes deficiency of light and of the sun's rays; sometimes the formation of the soil, in so far as the land has a certain configuration, or in so far as certain rocks have a particular chemical composition; sometimes the composition of the water; sometimes want of iodine in the water and in the air; sometimes unfavorable conditions of life—misery, neglect, dirt, want of attention to children, bad nourishment, etc. All these various circumstances have been successively declared to be the sole, or at all events the most important, factors in the production of these diseases. But, on the other hand, it is easy to prove that goître and cretinism also occur in places where not one of these special influences (for example, deep moist valleys, stagnation of the air, certain rocks, etc.) exist, and that in many places every one of these influences may be met with, without either goître or cretinism being prevalent.

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[1] In the work of A. Hirsch, 'Handb. der histor. geogr. Pathologie' (1, 2, Erlangen, 1860, p. 494), an excellent epitome of all that is as yet known on the subject may be found.

We ought not, however, to push this objection too far. We cannot deny the certain influence of marsh-miasm on the production of intermittent fever, because this disease sometimes occurs in localities where there are no marshes, and other localities which are very marshy are free from fever. This only proves that the more immediate and true causes of intermittent fever are generated principally, but not exclusively, in marshy localities, and even in marshy localities of a certain nature. In like manner, all those external relations which have been enumerated are the more remote causes of the production of definite immediate causes of cretinism, the latter are produced by combinations of circumstances in which many of the forementioned external conditions may exert their influence without necessarily being always in like manner effectual. Certain of these circumstances also may manifest themselves more constantly, and therefore lay claim to greater importance; while others are evidently subordinate and accessory. To the latter, for example, belong those which we have termed unfavorable social conditions.[1] Misery, dirt, neglect, mismanagement of children, ignorance and superstition, may be found in their greatest degree in many places where there is no trace of cretinism; and in the cretin districts the disease is not rare, even in well-to-do and wealthy families. Likewise, there are a number of mountainous districts with deep valleys where there is no trace of goître or cretinism, and cretinism often occurs in level districts and in very open valleys.

In my opinion, humidity of the soil and of the air, owing to water found underground, inundations, many streams, constant mists, are amongst the most important circumstances. I believe also (and the work of Hirsch points to the same conclusion) that the amount of magnesia in the soil (which is not to be confounded with the amount of magnesia in the drinking-water) exerts a certain influence. All the other external conditions which have been enumerated are each only to be found in certain individual cretin districts, and not in the majority of them.

Concerning the more immediate and true causes of cretinism, however, to which the circumstances which have been mentioned stand only as external causes, we can give no definite information. They are called, in the present state of science, miasm or morbid poison, and compared to the malaria of intermittent fever. These miasms, which, as in the latter disease, may be contained in the air or in the drinking-water, act feebly upon the mass of the population, and strongly upon a few, who then experience the full effects of the poison. The malady is now considered as an infectious disease, as it is a constitutional affection. The limitation of goître and cretinism to a tract of country, often very small, is favorable to this mode of view, just as it is to the theory of the production of intermittent fever. Amongst the many differences which the latter disease presents from cretinism, the fact is especially prominent that cretinism once produced "by miasm" is decidedly capable of being transmitted to the children, probably of more than one generation.

In many localities where goître and cretinism were formerly very prevalent, they have in recent times much diminished (like intermittent fever) under the influence of better regulation of the courses of rivers, the draining of marshy ground, and generally improved hygienic arrangements: in many places, indeed, they have completely disappeared. (Such diminution has been remarked, for example, by Tourdes in the neighborhood of Strasburg; and, according to Zillner, the number of cretins in Salzburg has diminished to about one-fourth between the year 1780 and the present time: the same may be said of many other places.)[1] A profound regeneration of race through immigration and marriages contracted with the strangers—above all, through the greater commercial activity of modern times, perhaps also the greater awakening of the intelligence and activity of the inhabitants through the same cause—may likewise tend to this result. In few places do goître and cretinism seem to have increased in modern times.

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[1] In the work of Georgens and Deinhardt, 'Die Heilpädagogik, etc.,' Leipzig, 1861, p. 201, we find, "Endemic idiocy is prevalent only in places *which are behind in civilization.*" This is not correct. The two villages in the neighborhood of Tübingen where cretinism is endemic, are no more behind in civilization than 100 other villages which are free from it.

According to the view here adopted, and in recent times pretty generally accepted, endemic goître and cretinism are, to a certain extent, specific diseases generated by a specific toxic cause of a miasmatic nature. I cannot oppose this view, which has much in its favor, and can show that many recent attempts to explain the production of these endemic diseases by a multitude of heterogeneous causes have been unsuccessful. Still, we must not place too much confidence upon this mode of viewing the matter, remembering that goître also often occurs sporadically; that the causes of its production are almost unknown; that endemic goître presents no distinctive peculiarities from the sporadic form: that consequently, therefore, we may suppose that unknown causes also operate in endemic goître; and that the connection between the development of goître and cranial synostoses, and diseases of the bones generally, which perhaps constitute the chief causes of cretinism, is altogether obscure and problematical—that it is even without pathological analogy to admit that closure of the sutures and ossifications might be caused by miasmatic poison.

The great influence of humidity in the causation of cretinism is demonstrated by a number of facts both general and special, and, just as in intermittent fever, even local dampness, confined to a house or to a block of houses, may generate the peculiar morbid influence. Like intermittent fever, cretinism has been seen to diminish rapidly in consequence of the better regulation of the courses of rivers. But even in regard to these facts, examples of totally different experiences are not wanting. There are, analogous to the mountain fevers, certain dry and arid localities where goître and cretinism are endemic (Fabre, 'Traité,' l. c., p. 56); and we have many examples of very humid countries (Holland for example) where there is no endemic disease.

In many localities intermittent fever is itself frequently observed side by side with cretinism. Analogous causes (paludal) appear, on the one hand, to generate cretinism, on the other, intermittent fever, splenic enlargement, and cachexia. It is especially remarkable that in those places *the thyroideal enlargement sometimes occurs acutely, and to a certain degree epidemically*, analogous to the acute intermittent processes, as if a (not quite identical with that of intermittent fever) miasmatic poison occasionally acted rapidly and with great intensity upon the population. Thus, according to Zillner,[2] there occasionally occur in Salzburg acute enlargement of the thyroid gland, acute enlargement of the parotids, of the spleen, and in some instances, of almost the entire lymphatic system, or together with intermittent fever, furuncles, glandular suppurations, etc.—circumstances which demonstrate the existence of an intimate connection between the production of goître and the malaria, and besides, in an etiological point of view, between endemic goître and cretinism. To alleged cases, in which, after diminution of the goître in an idiot, by operation or by other treatment, the mental state improved,[3] I can accord no great importance.

The very numerous investigations regarding the geological composition of the soil, in the goître and cretin districts, permit us to assume at all events several extremely interesting facts. Both diseases, especially cretinism, occur very rarely upon pure limestone (Jurassic[1] limestone also on chalk formations); they are very rare also upon granite and gneiss (in Savoy, in certain regions of the Vosges, more frequently in the northern Alps); they are, on the contrary, very frequent upon dolomite, clay slate, etc., also (at all events, in Würtemberg) upon yellow sandstone. In this country, the localities most infected are those in which the soil is composed of freestone, in the neighborhood of which lie beds of marl intersected by strata of gypsum, from which the population obtain their drinking water. (Sich., 'Würtemb. Jahrbücher,' 1855, 2.)

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[1] Fodéré remarked, moreover, in 1792, that the amount of goître and cretinism had considerably diminished within a certain number of years.

[2] L. c., p. 229. Examples of epidemic goître may also be found in Hirsch, l. c., p. 452.

[3] Arthaud, 'Gazette Méd.,' 1855, p. 428; Fabre, l. c., p. 240.

The assertion of Grange (1855), that a great amount of magnesia in the drinking water is the essential cause of goître and cretinism, has been completely refuted. Nièpce found in those districts of France in which cretinism is most endemic, that there was not one atom of magnesia in the water: in another locality, where, according to Grange, the goître almost disappeared when the patients were provided with another kind of water, Nièpce found a great deal of magnesia in this new water. In the neighborhood of Strasburg, magnesia was found in the water of certain districts where goître and cretinism are not more frequent than in others where the water is free from magnesia (Tourdes). The theory which attributes cretinism to the presence of calcareous salts in the water requires no further refutation.

The statements of Chatin regarding the presence of iodine in the air, water, and food, and upon the absence of iodine in the goître and cretin districts, created a great sensation, although from the first they appeared improbable. They have been questioned and refuted on all sides, and the whole affair appears at best to be explicable by the employment of impure reagents. See Fabre, 'Traité,' p. 83; De Luca, 'Comptes rendus,' vol. xlix., p. 170; vol. lvii., 1858; Cloëz, 'L'Institut,' 1857, Juin.

§ 171. That the local causes, whatever they may be, are alone sufficient to produce fully developed cretinism, is demonstrated by the frequently occurring circumstance, that families entirely free from any special predisposition, that parents who hitherto had always healthy children, had children complete cretins soon after taking up their residence in the locality.[2] If the statement of Nièpce be correct,[3] that the foundlings of Grenoble and Marseilles—districts where crètinism is unknown—become goîtrous and cretins when given out to nurse in the infected villages of Isère and Hautes-Alps, it would prove that the endemic cause may exercise its influence for a certain time after birth; indeed, a healthy child runs the risk of becoming a cretin up to the fourth (Maffei), and even to the seventh year. It is self-evident that these local causes can only be rendered harmless by removal from the infected locality.

But there is another important cause of cretinism; *cretinism is hereditary.* The child of a male or female cretin, begotten and reared beyond the reach of the endemic cause, may be a cretin; and it requires not only removal from the infected district, but also repeated renewal of the blood by marriages into healthy families, to cause cretinism finally to disappear in the second or third generation (Billet)—and even then traces of it may still exist. Amongst the constant population of these districts, the action of the endemic and of the hereditary influences cannot be individually and separately distinguished: when a child comes into the world a complete cretin, we do not know whether a powerful miasmatic influence acted upon the fœtus, or whether it is to hereditary influences that the cretinism is due. It is the same with the many children in the cretin districts who are born apparently healthy, but in from three to six months present evident symptoms of the affection: we cannot tell whether it is to hereditary influences, or to the endemic cause which now acts upon them for the first time, or to both circumstances together, that this is due. I incline to the opinion of the Sardinian Commission (loc. cit., p. 194), who consider hereditary influence to be the most powerful cause.

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[1] These facts are observed in very different countries. They are especially evident in Würtemberg, where, otherwise, cretinism is so general: it is the same in Savoy ('Sardinische Commission,' Billet, Garbiglietti).

[2] See especially the communication to the Academy of Sciences January 16th, 1854, in which he described the journey during which he made those investigations which enabled him "to draw a great line upon the map of Europe which demonstrated the reciprocity of the dissemination of iodine and of goître."

[3] Nièpce, l. c., p. 492. The statement has been contradicted.

Cretins of the highest degrees never have children, because the males are almost always impotent, and the women sterile. The children of a marriage between a man who is in a moderate degree a cretin, and a woman who is perfectly healthy, are frequently beautiful and healthy; frequently they are profound cretins, semi-cretins, epileptics, deaf and dumb. In general, cretinism is transmitted more by the father than by the mother (Guggenbühl, Erlenmeyer). The crossing of races causes the predisposition to disappear only when the individuals are at the same time removed from the infected district. According to Billet (l. c., 1855, p. 45), it has long been the custom in several communes of Maurienne where cretinism is prevalent, for the young men to choose their wives from districts free from goitre and cretinism; but these women all become goîtrous, they have often cretin children, and cretinism is on the whole not diminished thereby. Here the favorable influence of crossing of races is neutralized by a very powerful endemic cause. In a locality where the endemic cause was not so strong, such gradual renewal of the blood would, without doubt, have been followed by favorable results.

It may be admitted that the many injurious influences which, in localities where cretinism is endemic, result from mismanagement of children, and the whole mode of life of a profoundly degenerate, indolent cretin population, have a very prejudicial effect upon the young: these influences, however, have only the significance of accessory causes, which act only where the malady is endemic. Still, it is important that they should be removed; and it is certain that through proper nurture and rational early education of the children, the diseases which lead to idiocy may, at all events, be restrained.

An arrestment of the disease in endemic cretinism may sometimes be arrived at through change of locality in early childhood, and being placed under favorable conditions. From experiments which have been made in the mountains on this point, together with the opinion that cretinism is never met with at a greater altitude than 2000 feet above the level of the sea, the peculiar idea has arisen that cretinism may be cured upon high mountains; and the opinion has even been extended to idiocy in general. In fully confirmed cretinism, change of locality and all other treatment is generally ineffectual; improvement may occasionally take place.

§ 172. In the localities where cretinism is endemic, there is not, as we have already remarked (p. 262), only one sole and always identical type of degeneration, but all those types of cranial and bodily deformities are observed, all those anomalies of form of the cranium, especially the various synostotic forms—synostosis as well of the cranial arch as of the cranial base, which we have already described (§ 161). The most common deformities are the examples of moderate microcephalus, especially the brachycephalic forms in all their modifications.[1] It is likewise an irrefutable fact that endemic cretinism presents certain modifications in the various localities in which it occurs: for example, the cretins in Salzburg are in general a little different from those in Switzerland. The synosto-basilar form which we have described (§ 166) as the cretin type in the strict sense, with large head, small unsightly thick body, broad stump nose with its root impressed, sad features, wrinkled, partly hypertrophied skin (also accompanied by the most extreme dementia), is nowhere frequent in its most extreme degrees, as the extreme examples of all the forms are in general rare; but a great number of cases present an approximation to this, and it is this which gives to the majority of cretins in all localities where it is endemic a common striking family likeness. Moreover, in localities where the endemic influence is strong, the whole population are affected by it. Besides cretins, half-cretins and goitrous persons, there are a number of weak-minded, stunted, ill-proportioned individuals, many deaf and dumb—many who stammer, are hard of hearing, squint, etc.; a general vein of physical degeneration and mental dulness runs through the whole population; and even those who are considered healthy and clever, are, as a rule, ugly, stunted, and lazy: they are a narrow-minded race, whose want of intelligence is by no means compensated by largeness of heart.

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[1] G. Jäger has brought forward some interesting facts concerning the occurrence of a high degree of microcephalus (monkey-heads) in certain families in a cretin village in Würtemberg ('Würtemb. Med. Corresp. Blatt,' 1839, No. 26). The Stuttgart Cabinet of Natural History contains a very interesting cranium of one of these children, described in the same journal.

Cretinism may exist at birth in all its essential characteristics, and in a well-marked degree; this, however, occurs very rarely, and, as a rule, the signs in a newly born child are very uncertain or altogether absent. Many of these children, it is true, come into the world with large and somewhat irregularly formed heads, wide fontanelles, and abundance of hair; their features are coarse, the neck thick and short; they cry very little, and sleep almost constantly. But at about the third or fourth month, sometimes not until the fifth or eighth month, the symptoms of the malady commence to show themselves, and gradually become more distinct. These children are very fat, do nothing but eat and sleep; their mouths are constantly open, and the head falls to one side; their countenance is void of expression; they seldom weep, and never laugh: they manifest no curiosity nor attention. Dentition proceeds slowly; the teeth soon decay; the tongue protrudes from the mouth; the child understands nothing until he is about six years of age, and sometimes even cannot walk: the expression of mental nullity is also very marked; the morbid process has run its course.[1] Up to the period of puberty, the features become coarser, more angular, and older looking; the skin is often dark and rough, the body remains small. In the higher degrees, mental development does not proceed at all, or merely in its simplest form, and even this is perverted; the apathetic, gloomy condition of mind and sentiment preponderates: on the other hand, in the more moderate degrees and slighter cases, somewhat agitated conditions are by no means uncommon—these cases furnish the village clowns. Puberty is late in making its appearance, sometimes not until the twentieth year; childhood has continued till now, and old age immediately commences; from puberty onwards little change occurs in the bodily or mental condition.

Many of the more complete cretins fall frequently, some of them daily, into a state of immobility, of half sleep or suspension of all the physical and mental powers. This state may evidently be considered as analogous to epilepsy or to epileptic vertigo (there also occur at the same time irregular movements of the head and body, rolling of the eyes, etc.). In regard to the further physical and mental peculiarities of cretins, I must refer the reader to the many special works upon the subject, especially to the 'Comptes rendus' of the Sardinian Commission. It does not lie within the province of this work to enter into minute details on this subject.

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[1] Iphofen (ii., p. 216) cites an example of a "cretin" who was healthy and clever up to the age of five; then he became epileptic, these increased, and he gradually became "a cretin." Cases of this kind, even where the affection is endemic, admit of great doubt whether they ought to be considered as cases of endemic disease, or of accidental cerebral disease, as in sporadic idiocy. It does not necessarily follow that every case which occurs in the infected locality must be the product of the endemic cause.

CHAPTER IV.

ON SEVERAL IMPORTANT COMPLICATIONS OF INSANITY.

§ 173. THE various forms of mental disease which have been described, especially those mentioned in the second and third chapters, are sometimes accompanied by serious disorders, in particular by certain severe affections of the motory nervous system, which—although intimately and immediately connected with the disease of the brain from which the insanity also results—present such importance, and, to a certain extent, such a degree of specialty, that they may be regarded as complications of the insanity. By these complications, therefore, are not to be understood all the diseases which may affect the insane; these are innumerable; indeed, we scarcely know any disease which is not to be met with along with insanity. The opinion formerly held, that the insane were exempt from epidemic diseases, was completely refuted in the days of Pinel by the spread of malignant typhus fever, which prevailed in the ordinary wards of the hospital, to the division for the insane; and since then, on more than one occasion, outbreaks of cholera have proved the erroneousness of this opinion. All the disorders, therefore, which are known to special pathology, may occur in the insane. Here, however, we have to do only with the study of those complications which are directly connected with the insanity—those serious disorders of sensation and movement which, themselves symptoms of profound disease of the brain, constitute a part of the history of the insanity, and are here only formally separated from it in order that we may be enabled to study them more in detail.

It has been considered incorrect to consider these disorders as *complications* when they are the result of the same cerebral disease which produces the insanity. How far this is correct, is certainly as well known to the author as to his critics; he does not mean, by complications of insanity, complications of cerebral diseases *with other diseases*, but complications of the ordinary and predominant psychical symptoms with other groups of symptoms which in the great majority of mental diseases are altogether absent.

§ 174. Of these disorders, the so-called *general* (*incomplete*) *paralysis*, on account of its frequency, the peculiarity of its course, and its highly unfavorable prognosis, merits the greatest share of our attention. To the French physicians (Bayle, Calmeil, Delaye, etc.) belongs the credit of having first minutely observed this affection; and it has, to the present time, been a favorite subject of study with the medical psychologists of this country. Several German works, however, have recently contributed greatly to advance our knowledge of this disease.

Of the abundant literature of general paralysis, the following is the most important:—Bayle, 'Rech. sur les Mal. Ment.,' Paris, 1822: further—'Maladies du Cerveau,' 1826, and 'Annales Méd. Psychol.,' 1855, vii., p. 409; Delaye, 'Cons. sur une espèce de Paralysie,' etc., Paris, 1824; Calmeil, 'De la Paralysie,' etc., Paris, 1826; Duchek, Prager's 'Vierteljahrsschrift,' Bd. xxix., 1851, p. 1; Hoffmann, 'Günsburgs Zeitschr.,' Bd. i–viii., 1850–58; Baillarger, numerous minor papers in 'Ann. Méd. Psych.,' 1852–59; J. Falret, 'Rech. sur la Folie paralytique,' Par., 1853, and 'Archives Gén., 1858, ii., p. 200; Joffe, 'Zeitschr. der k.k. Ges. der Aerzte zu Wien,' xiii., 1857, p. 675; L. Meyer, 'Annal. des Charité-Krankenhauses,' viii., 2, 1858, p. 44; Erlenmeyer, 'Die Gehirn-Atrophie der Erwachsenen,' 3d edition, 1857; Austin, 'A Practical Account of General Paralysis, Lond., 1859; Parchappe, 'De la Folie paralytique,' Paris, 1859.

This paralysis is never met with in individuals who are mentally healthy; that is, it depends upon a disease of the brain which is always so severe as to number profound insanity amongst its symptoms. The mental symptoms either appear simultaneously with the disorder of movement—or most frequently—they precede for a certain time the manifestation of the motory symptoms, or—much more rarely—the paralytic appearances were observed for a short time before the development of the insanity.

Since the publication of the first edition of this work, the question whether general paralysis might arise without mental disturbance, in persons mentally healthy, has been much discussed; but the subject has not always been treated with that clearness and experience which is so desirable. In opposition to the few who answer this question in the affirmative (Réquin, Sanze, and to a certain degree Baillarger), it was not difficult to show that the various states of progressive paralysis in the sane are quite different from this special form, and that the latter is also essentially distinct from many other paralytic conditions *with mental derangement* (for example, paralysis owing to apoplexy, tumors of the brain, etc.); indeed, that by no means does every general and progressive state of muscular weakness, in part proceeding to paralysis, *in the insane or mentally weak* belong to this special form (thus the muscular weakness which accompanies senile dementia, or chronic alcoholismus, or the progressive spinal paralysis which sometimes accidentally complicates insanity). In this special form, the progressive muscular weakness and the insanity proceed from the same cerebral disease; and the latter differs in many points so distinctly from the cerebral affections which lie at the foundation of the other mental disorders, that it is now established that it ought to be considered as a special form (general paralysis, paralytic dementia, folie paralytique).

The first symptoms which usher in this cerebral affection are very often psychical, or, in other words, the motory disturbance occurs in individuals already mentally deranged. Nevertheless, in these cases the first muscular symptoms usually appear very shortly (within a few months, or even weeks) after the commencement of the psychical symptoms. That cases also occur where the first appearances of the paralysis preceded the psychical symptoms, has been already asserted in the first edition of this work. Since then, Baillarger has laid especial stress upon this mode of commencement, and in one of his works has even gone so far as to declare that the paralysis is the primary and leading symptom of the disease, and the insanity more secondary and accessory. Hoffmann states the number of these cases at 18 per cent of his observations; and it is of course possible that the first, slight muscular disorders are, in many cases, for a time overlooked by those who surround the patient, and that accordingly the paralysis preceded, or perhaps occurred simultaneously with the mental disease, in a greater number of cases than was formerly supposed. Still, in the present state of science we must assume that in the great majority of cases the psychical derangement precedes the paralysis.

§ 175. *The tongue* is always the organ whose movements first present irregularity. The patient commences to speak with difficulty, to articulate somewhat indistinctly, and to stammer. In this the tongue, when protruded, does not incline to one side, but tremulous and occasionally convulsive movements of it are observed. This early symptom, diminished facility of speech, which soon advances to stammering, is of very great importance; whenever this is remarked in an insane person, he may with almost absolute certainty be considered as lost. Then, although these patients have all the appearance of robust health, and cannot sufficiently extol their own feeling of well-being, there gradually becomes developed a series of the most various symptoms. At the same time that the speech becomes difficult, more frequently not until some time after, a change in the gait of the patient is observed; he does not lift his legs properly, walks stiffly, involuntarily deviates to one side when attempting to walk straight forward, and easily stumbles if the floor be at all uneven, —for example, when going over a step. Still, they take pleasure in walking about a great deal; some of them even experience a constant desire for restless change of scene: they take long walks, and, to the inexperienced eye, nothing striking is presented so long as they keep upon level ground. The arms remain for a long time unimpaired. Gradually, however, while the pronunication of words becomes constantly more indistinct, so that we occasionally have to guess what the patient intends to say; the gait becomes unsteady, like that of a drunken man; the feet are dragged after him; the knees appear as if they would collapse; he must support himself by the wall, stumbles every moment, and frequently falls. The arms and hands now become somewhat stiff; objects are grasped, as if convulsively, and occasionally suddenly let fall; all the more delicate movements, such as writing, sewing, playing the piano, etc., gradually become impossible. When reclining, the patient can freely move his legs and arms; but these movements are more slowly and stiffly performed than usual. As the disease progresses, he can no longer maintain himself erect, language is replaced by confused and indefinite sounds, which run into each other; even while sitting or lying he can scarcely move or stretch his legs, but the arms and hands still enjoy comparative freedom of movement.

The muscular affection appears to be even at the commencement very extended, indeed almost general, although at the same time very feeble: it is manifested first of all in those organs whose movements required to be most delicate and precise: the principal of these is the tongue, and difficulty in the pronunciation of words is therefore always a leading feature in the picture of this paralysis. Ordinarily, the movements of the lips are also rendered more difficult, particularly in the formation of labial sounds (Duchek); and also, apart from speech, we frequently remark slight convulsive movements in the muscles about the mouth. In the upper extremities we remark at the commencement, yet without any actual weakness, a slight tremor, which renders the movements irregular, awkward, and constrained. In the lower extremities it is at first less tremulousness than an involuntary restlessness, a jerking irregular movement of the legs in walking. At this period the gait is rapid; but later, when the patient can no longer walk owing to actual weakness, we may often perceive transient or more persistent stiffness in certain of the muscles of the leg.

I believe that I was the first to call attention to the fact that this motory disorder is at the commencement not so much paralytic as convulsive in its nature (1st edition, p. 286). Since then this point has been many times confirmed: see especially J. Falret, 'Archiv,' l. c., p. 202; Duchenne, "De l'Ataxie locomotrice," 'Archives,' 1859, p. 62. A great impairment of the muscular sensation, which, for example, enables the healthy person to estimate the degree of resistance and the amount of muscular power expended in the performance of a certain action, appears to play an important part in producing the disorder, and want of co-ordination and precision of the movements (Neumann): still this does not suffice to explain all the phenomena—for example, the trembling of the muscles of the face.

Afterwards an actual state of weakness of the muscles sets in, and this is very general; the body becomes completely bowed down, the arms hang loosely by the side, the head hangs back, the sphincters or detrusory muscles of the urine and intestinal contents become feeble, and, finally, even the respiratory muscles become paralyzed. It is only in exceptional cases that we observe greater weakness in one half of the body, an inclination of the tongue to one side, obliquity of countenance; these exceptional cases appear to depend upon considerable atrophy of one-half of the brain, or upon unilateral hæmatomata in the dura mater.

The contractility of the muscles under the influence of electricity is, as in other forms of cerebral paralysis, always normal (in contradistinction to peripheral and many spinal paralyses). This, however, is of very little diagnostic value, as it is also observed in a number of other paralyses (hysterical paralysis, paralysis resulting from a tumor of the brain, etc.). Duchenne, who established this fact in 1850, has published the further results of his experiments in 'Traité de l'Electris. loc.,' Par., 1855, and especially in his "Mémoire sur l'Ataxie locomotrice" ('Arch. de Méd.,' 1859, p. 68).

At the commencement *the pupils* are often regularly contracted; afterwards they again enlarge, but often unequally. Seifert ('Zeitschr. f. Psych.,' x., p. 561) observed, in twenty-five paralytics, seventeen cases of anomaly in the mobility of the iris. This irregularity of the pupils, which sometimes exists for years before the outbreak of the malady, is not to be considered as its first commencement; this occurs quite as frequently in individuals who afterwards become attacked with other forms of mental disease. Strabismus, and disorders of movement of the eye generally, scarcely ever occur; sometimes, but in a later stage of the disease, a convulsive rolling of the eyeballs may be observed.

As to sensibility, the special senses generally remain till the last without any striking impairment; when the affection has lasted for a long time, the senses of taste and of smell become less acute, so that the patient, for example, cannot distinguish wine from water. Pain does not exist, but at the commencement the patient sometimes complains of headache, with a sensation of weight and confusion in the head, and a slight degree of vertigo. The cutaneous sensibility occasionally presents a remarkable peculiarity. While it in all cases appears at the commencement to become blunted, and afterwards in certain cases almost abolished (so that the patients can endure severe pinching without experiencing pain), there occasionally occur transitory states of extreme hyperæsthesia of the cutaneous surface, in which the slightest touch excites the most extended reflex movements, convulsions of all voluntary muscles—conditions which present the greatest similarity to the symptoms produced in animals by a poisonous dose of strychnine. In a well-marked case of this kind we were able minutely to observe this cutaneous hyperæsthesia during the hours immediately succeeding an attack of convulsion.

Not unfrequently, we observe in these patients, under the symptoms of violent cerebral congestion, sudden attacks of loss of consciousness, often accompanied by convulsive attacks resembling those of epilepsy. These, when they have once appeared, are generally repeated at intervals; the patient may die in them, but generally he soon recovers. After each attack there is usually observed an increase of the paralysis and of the mental dulness; more rarely, contractions of certain ligaments of the forearm, finger, or leg, remain after an attack.

We must distinguish between the slight attacks of vertigo observed at the commencement, the congestive attacks which occur in the course of the disease, and are more or less apoplectiform and combined with loss of consciousness, and the epileptiform attacks. In certain rare cases the congestive attacks occur at the very commencement, so that the disease appears to begin with one of them: in cases of this sort, however, slight symptoms have always previously existed. In the latter stages of the disease they are seldom altogether absent; in the end they occur more frequently, and are of longer duration, sometimes lasting for several days. The epileptiform attacks never make their appearance until the disease is far advanced.

§ 176. At the commencement of the disease the *psychical disorders* do not always present the same character. It is rarely that a melancholic stage does not exist. This is sometimes simply depressive, sometimes strongly hypochondriacal in its character. The first disorders of movement are very rarely manifested in the melancholic stage; nevertheless, cases do occur, as Calmeil (l. c., p. 328) has observed, and in such cases the patients may retain for a long time the melancholic nature of the delirium, so that the depression passes almost immediately into dementia. The change in the character and entire nature of the patient is very variously exhibited at the commencement of the disease. A want of the former mental activity and energy, a painful anxiety regarding the most trifling circumstances, are frequently the first symptoms observed; amongst the prodromal symptoms we occasionally observe, also, certain perversions of the character and affective sentiments, which are often extremely startling, occurring in patients who still move freely in society, pursue their avocations, etc.: these may give rise to medico-legal questions which are often very difficult to settle—especially violations of property (sometimes proceeding from the idea that the objects in question really belong to them; frequently, also, from a momentary irresistible impulse to gratify a desire); rude, immodest acts, and the like.

Whatever the commencement may be, in ordinary cases there always arrives a period characterized by a state of general psychical excitement. The first evident symptoms of the motory disorder generally correspond with this—that is, with the vague delirium of mania, or accompanied by those fixed ideas which we have described when speaking of monomania; namely, such as relate to exaltation of the person, to grandeur, which, on account of their frequent connection with general paralysis, are correctly considered of great prognostic value (*monomanie des grandeurs*). These patients are active, busy, speak a great deal, are constantly in movement, buy and sell, plan great schemes; their manner is, indeed, odd, peculiar, and extravagant, but they are only recognized as mentally diseased by the initiated. Soon they allow themselves greater freedom, become more and more restless; manifest in everything their satisfied, exalted frame of mind; spend lavishly and make magnificent presents; recount imaginary histories, in which they frequently contradict themselves; now and then they give offence by their habits of drunkenness and gross indecencies: in short, they make themselves—to use Neumann's appropriate expression—unbearable. Should the patients be admitted at this period into an asylum, they generally, under isolation and appropriate diet, rapidly become somewhat more calm; but usually this is of only short duration, and in the great majority of cases there are now developed the specially characteristic ideas of greatness, in which all that relates to the person of the patient assumes in his eyes colossal dimensions, and is expressed by him in the most superlative language and highest numbers. At the same time, however, the intellect, character, and emotions, all assume the character of weakness. In their delirious ideas they often contradict themselves; they do not persist in them, but soon forget and pass on to others: the circle of the ideas is, in spite of their apparently active production, very limited; incoherence soon becomes (particularly in writing) marked; and it is in the highest degree remarkable how all things, even the most absurd, are at once accepted as realities without the least internal opposition: the *ego* becomes quite incapable of resistance, and is entirely taken possession of and subdued by them. Their will is weak; they appear violent, but are pliable as children, easily subdued, and they are also somewhat mobile and lachrymose in their nature.

The weakness of the mental faculties becomes more and more profound in proportion as the paralytic appearances become more marked; the patient loses his memory, the capability of mental association, all sense of duty; he becomes completely indifferent, dirty in his habits, etc. From this time the dementia progresses step by step with the paralysis:

still, in certain patients the course of the disease is varied, sometimes by increased restlessness—sometimes even by attacks of mania, vociferation, and desire to destroy. Certain patients continue for a long time to manifest, but without any actual sense of what they say, those extravagant ideas of possession of provinces, riches, worlds, millions, etc., variously modified according to the degree of education. The one[1] possesses millions of billions—all the world belongs to him, all things were made by him, etc. Another has built the most splendid castle, bought all Italy, plundered Asia, destroyed the bridge from the earth to the moon, transferred the Chinese to Paris, is himself 800 feet high, etc. Others walk 100 leagues in a day, write 100 tragedies and 1000 poems in the same space of time—have heads made of diamonds set in gold, horses and palaces made of gold, etc.

Moreover, the ideas of greatness are not always so completely developed as might be supposed from the descriptions given of individual cases. Exclusive of those rare cases in which the entire mental disorder had for a long time the character of depression, and no special stage of mania ever existed, conditions are also frequently observed where the excited and elevated disposition was manifested rather as a general lively, happy, self-contented manner, than in many exalted ideas, or where the latter are at least comparatively unassuming in their character; for example, in women, simply the conviction that they have a great many fine dresses at home, etc. Sometimes the dementia forms the base and the background of all the psychical phenomena, and also soon manifests itself in the expressionless countenance and contented residence in the asylum. The gigantic ideas are now expressed, as it were, mechanically, as a remnant of the former activity of the mental processes.

In the latter periods of this affection these ideas completely disappear: the patient is in the extreme stage of mental decay; he is as little capable of having a complete idea as he is of pronouncing a proper word; he is void of any conception of his whereabouts: even the primary instincts, as the desire for food, disappear, and the patient requires not only to be fed, but the food must often be pushed backwards in the mouth.

The appetite, the digestion, and nutrition are, at the commencement, and during a considerable period of the course of the disease, well maintained: the patients then eat well, and even greedily; their appearance is often good, and they frequently have a tendency to become fat: a remarkable dryness of the skin, with considerable separation of the epidermis, were the only circumstances which struck us in certain cases where the cutaneous sensibility was diminished. It is not generally until the advanced period that the patients become emaciated; gangrenous spots appear in various parts of the skin, especiallly of the back; large abscesses form; extensive suppurations and infiltrations of the extremities occur, and the patients sink under hectic fever, which in many cases is connected with pyæmia—in others with acute or chronic intestinal catarrh, accompanied by profuse diarrhœa and ulceration of the intestines; at other times it is connected with general tuberculosis. Some also die of pneumonia, particularly of lobular pneumonia, consecutive to chronic bronchial catarrh; others from accident, etc.

The work of L. Meyer (l. c.) renders it very probable that the morbid process in the cranium which lies at the foundation of the paralytic mental derangement, at least in many cases, is itself accompanied by a febrile increase of temperature, and that the maniacal stages are in particular intimately connected with this febrile increase of temperature. This is, moreover, sometimes very inconsiderable (Meyer's 17th observation, p. 167), and it seems to me still problematical whether a distinction between these forms and the other states of psychical exaltation can be founded upon the state of the bodily temperature. Sander (Virchow's 'Archiv,' xv., p. 160) found the secretion of urea comparatively small, even in patients who took their food well and became emaciated; he accounts for this by diminished assimilation of the nutritive elements.

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[1] See Bayle, 'Maladies du Cerveau,' Paris, 1826, pages 71, 210, 502.

§ 177. General paralysis of the insane occurs, according to all known experience, much more frequently in men than in women. According to Calmeil, there is one general paralytic in every 15 insane in men, and in women 1 in 50;[1] according to Bayle, in Charenton general paralysis was eight times more frequent amongst the males than amongst the females;[2] Foville calculates 31 general paralytics to 334 insane, of whom 22 are males and 9 females;[3] Hoffmann found 18 paralytic women to 138 men; in Leubus there were, in about 2700 cases, 1.376 per cent males, and only 3.16 per cent females; in Prague, to 63 men there were 6 women; in Stephansfeld, from 1835 to 1852, $\frac{1}{6}$th of the males and only $\frac{1}{26}$th of the females suffered from general paralysis; Bazire[4], in Bordeaux, had 62 general paralytics amongst 996 females, etc. The causes of this difference between the sexes are obscure: it may, with some show of reason, be assumed that the more frequent excesses in spirituous liquors and in venery amongst men predispose the brain to such affections; perhaps strong cigars and strong coffee have a share in this: nevertheless, cases occur in which the disease sets in after the most regular life, where none of these causes have been at work, and in particular where no traces of former syphilitic disease—a cause which has recently been assigned an important place in the etiology of this affection (W. Jessen)—existed.

This disease almost never occurs before the age of twenty, it is most frequent about the age of forty. It is most frequent amongst the educated classes[5]—amongst military officers, merchants, government officials, and the like; it is also very frequent in, mentally excitable persons—in poets, musicians, learned men, especially if of the sanguine temperament. Excessive mental excitement, and, in a still greater degree, emotional agitations, appear to be important factors in its production. Climate, too, appears to exert some influence upon the frequency of general paralysis; it is not so common in many southern countries (for example, in the South of France) as in the north.

General paralysis is nowhere more common than in France, or, at least, in the asylums of Paris. According to Bayle (1855), the proportion of paralytics is 1 in 4. (Baillarger, on the other hand, gives for Bicêtre and Salpêtrière together the proportion of 1 to 16.) In Vienna the disease is common (in 1855 and 1856 about 12 per cent of the admissions, to which afterwards a considerable number would of course be added); in the Tyrol Asylum (Stoltz, 1851) more frequent than in Prague (Duchek). The very large proportion which Bini gives for the asylum at Florence is remarkable (about 18 per cent of the admissions); it is also worthy of note that Guislain, in the few years previous to 1850, remarked, in his sphere of observation in Ghent, a considerable diminution in the number of paralytics ('Leç. or.,' ii., p. 104), while elsewhere it was universally found to be on the increase. It would be interesting to compare all the existing statistics of general paralysis; many errors might thus be corrected, and greater light thrown upon its true causes, which are as yet buried in obscurity.

§ 178. The duration of general paralysis varies from several months to about three years: exceptional cases, indeed, occur, in which the disease lasts for a longer period, even for ten years (Brierre, Trélat); still, not without long periods of intermission. When nursed in their families, these patients live longer than in asylums, as their care in the higher degrees demands the same trouble and attention as that of a young child. The course of the disease is not only interrupted unfavorably to the patient, or accelerated by the congestive attacks of which we have spoken; frequently also we see the patient become daily worse without any appreciable cause.

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[1] L. c., p. 371.

[2] L. c., p. 403.

[3] 'Dict. de Méd. et de Chir. Prat.,' art. "Aliénation," p. 505.

[4] 'Ann. Méd. Psychol.,' vi., 1854, p. 658.

[5] In Leubus, there were of all the male patients 13.76 affected, but of those in the higher ranks of life 25.00.

Several examples of recovery, or at least of long-continued considerable improvement—never without urgent danger of relapse—have been published. Calmeil has observed two and Bayle six cases of this kind: Flemming, Snell, Ferrus, Baillarger, have also communicated several cases of recovery. The immense majority of the patients, however, die within the given time. On the hand, it is less rare to observe transitory improvements, and sometimes even complete intermissions; but unfortunately, these are only of short duration.

On the whole, this affection is essentially progressive in its character; but, in general, this progression is rather irregular than constant, and sometimes even jerking in its character. Remissions of all the symptoms, psychical as well as motory, are not unfrequent; they may even proceed to a condition in which the patient no longer manifests any trace of delirium, returns to his employment, and only a slight hesitation in speech and a certain degree of mental and emotional weakness is perceptible to the initiated. These marked remissions may last for several weeks, and even for a year or a year and a half; even such slight signs of intellectual weakness do not in the least warrant us to consider the individuals as of sound mind—a fact which in a medico-legal point of view may be very important: as a rule, the ordinarily recognized signs of insanity are altogether absent in these cases. Frequently, these marked intermissions are suddenly cut short by a congestive attack, with which the patient is again plunged into his former state, and usually the disease then runs rapidly towards its fatal end.

From the many careful and interesting investigations concerning the condition of the brain in general paralysis (see the chapter on Pathological Anatomy), we discover that the alterations which lie at the foundation of this disease are not exactly similar in every case. Here also, as in the other diseases of the nervous system, different anatomical changes may give rise to the same groups of symptoms. Ordinary apoplexy—irritation of the brain, owing to extravasation of blood—never gives rise to this form of paralysis; on the contrary, during the attacks of cerebral congestion and loss of consciousness, more or less considerable effusion of blood appears to take place into the sac of the arachnoid, which afterwards either becomes encysted or, where the quantity has been small, transformed into a thin, incompact pseudo-membrane, resembling vegetations upon the internal aspect of the dura mater, covering the convex portion of the hemispheres.

It is not to be supposed that the congestive apoplectiform attacks *always* depend upon extravasation of blood into the cavity of the arachnoid (hæmatomata); there are cases with frequently repeated and strong attacks, and no extravasation. Ordinary extravasation of blood into the brain occurs in certain rare cases as a complication; it never lies at the foundation of general paralysis.

The diagnosis of paralytic mental disorder is, in the great majority of cases, no difficult task. It is based upon the existence of the symptoms we have been describing; upon the general but incomplete character of the paralysis—its progressive nature; upon the convulsive character of the early symptoms of the disease—its commencement with trembling of the tongue and of the lips; upon the special character of the mental derangement, particularly the ideas of greatness and the rapidly ensuing mental weakness; upon the irregular course. It is by regarding these symptoms that we in general soon succeed in distinguishing this affection from paralysis due to cerebral hæmorrhage, embolism, encephalitis, tumors of the brain; from hysterical and toxic paralyses; from progressive spinal paralysis, the tremor of old age, progressive muscular atrophy.

The great analogy which exists between this paralysis and the insanity connected with it and drunkenness, mentioned by me in the first edition of this work (p. 246), has since then been more minutely described by Lasègue ('Arch. Gén.,' 1853, i., p. 49) and by Bayle ('Ann. Méd. Psych.,' 1855, vii., p. 423). The former calls attention to the fact that there are cases in which the diagnosis between this paralysis and alcoholismus is not very easy: the course of the disease, however, will always in these cases soon lead to a correct conclusion.

§ 179. As the second important complication of insanity may be mentioned *epilepsy.* The numerous points of contact and transition of the motory convulsive forms comprehended under this name, to the more profound derangements of the psychical functions, are manifested partly in the symptoms which precede, accompany, and follow the attack—partly in the whole course of the disease.

Striking psychical disturbances sometimes occur *before* the attack. Sometimes a confusion and obscuring of the consciousness resembling drunkenness; sometimes profound sadness—an extremely painful, angry disposition; sometimes violent hallucinations of all the senses—immediately precede the attack.

During the attack, in fully developed cases, the psychical faculties are completely suspended; at least, the patient cannot remember any psychical act that happened during this time, although the expression of fixed terrified astonishment which he so frequently manifests might awaken the idea that he is suffering extreme mental pain. There are, however, many epileptic conditions in which we may recognize, during the attack, the existence of a psychical disorder. Thus we may frequently observe attacks sometimes preceding and sometimes alternating with intermittent convulsions, which consist principally in a psychical anomaly, either entirely without, or with very limited, disorder of movement (for example, contractions of certain muscles of the face, movements of deglutition, relaxation of the brachial muscles), of which occasionally the patient has some degree of recollection. In many of these patients there is a sudden obscuring or suspension of consciousness as to external objects: the eyes become fixed; the patient, if he had been speaking, sometimes repeatedly murmurs the word last spoken; when he recovers, he perceives his mental absence, and sometimes attempts to conceal it, or continues his conversation, commencing at the word at which he stopped. Such patients have subsequently described their state as one of profound mental pain, with great incoherence and depression, as though they were in a painful dream; they had a sensation of anxiety, or as of some terrible misfortune, without knowing any reason for it. Others, after partial or complete loss of consciousness, execute combined movements—series of actions which correspond to a state of dreaming, of varied, but, in general, of a painful and depressive character. Most frequently the patients have no recollection of these.[1]

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[1] 'Cyclopædia of Pract. Med.,' vol. ii., art. "Epilepsy," by Cheyne. See also the case where phantasies were remembered after the epileptic attack, in Nasse,

Immediately *after* the attack, the psychical functions are often very seriously disturbed. Sometimes the patient speaks incoherently for a long time, as if he were in dementia, and the intellect does not recover its former state for several days. Still more important, however, are those paroxysms of mania immediately following the convulsive attacks, which manifest themselves by such a degree of blind fury and violence, such wild gesticulation, as scarcely ever occurs in ordinary mania. In other cases, states of profound melancholia, sometimes calm, sometimes agitated, and in the latter case sometimes amounting to actual mania, break out after the attack. In general, all these states rapidly pass off, particularly by sleep; sometimes, however, they pass into a condition of stupor, in which the patients, with more or less cerebral congestion and fever, lie completely exhausted and prostrated, and may at last sink, in the course of a few days, or it may be weeks, under a condition presenting indefinite typhoid-like symptoms (with negative post-mortem results).

Precisely similar intellectual derangements may also occur without having been preceded by convulsive attacks, or, to a certain degree, in their stead. Then these always occur several times in succession, and there is thus originated an intermittent mania of the most serious description, alternating with epileptic attacks.

But a very great number of epileptics are in a state of chronic mental disease even during the intervals between the attacks. In order to appreciate to what extent this is the case, we must not confine ourselves to the isolated cases met with in private practice, but we must study the question in the light of the results furnished by observations conducted in large asylums devoted to such patients. Thus, amongst 385 epileptic women observed by Esquirol,[1] there were 46 hysterical, of whom many suffered from hypochondria and maniacal attacks; 30 others were maniacs; 12 were monomaniacs; 8 were idiots; 145 were dements (of these 16 were constantly so—the others for only a shorter or longer time after the attack); 50 were weak in memory or had exalted ideas. Sixty (only ⅙th) were free from intellectual derangement; but nearly all of these were irritable, peculiar, and easily enraged. The latter trait of character—a dominant, suspicious, discontented, misanthropic perversion of sentiment, sometimes even actual melancholia with suicidal tendency—is observed in a great many epileptics. This may, in great degree, originate from the sense of their sad and exceptional position, from the gradual perception of the moral death to which their malady condemns them.

The most important persistent psychical disorder to which epileptics are subject is dementia. As a rule, it makes its appearance earlier according to the frequency of the attacks. Memory fails; perception becomes dull; the imagination loses its brilliancy; its genuineness and fervor, and the emotions become withered. The physiognomy and deportment change—the patient becomes thick-lipped, coarse in his features and repulsive in his appearance. As the attacks become weaker and less frequent, the mental faculties may regain their power, but, owing to the rarity of radical cure in epilepsy, the majority of these patients finally fall into dementia.

The existence of these intermittent convulsive forms in the insane is,

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'Zeitschrift für Anthropologie,' 1825, i., p. 190. The dissertation on epilepsy by Dr. C. F. Höring, Tübingen, 1859, contains many observations of this kind.

[1] 'Maladies Mentales,' vol. i.

therefore, of very great importance in regard to the prognosis. Dementia with epilepsy may be considered as perfectly incurable; and in other forms of insanity complicated with epilepsy, recovery is altogether exceptional. Some asylums, therefore, which are exclusively devoted to curable cases of insanity, shut their gates against all insane persons who are affected with epilepsy.

The psychical derangements observed in epilepsy are not nearly so peculiar as those in general paralysis; these may assume various forms, which, however, all terminate in states of mental weakness. Muscular paralysis occasionally occurs in the epileptic insane, but it does not commence in the tongue and lips, and is very frequently confined to one half of the body; the accompanying delirium is not the same as in general paralysis. For insanity complicated with epilepsy, see the recent works on the latter disease, especially that of Delasiauve (Paris, 1854); Flemming, 'Psychosen,' p. 118; Haushalter, 'Du Délire épileptique,' Diss., Strasb., 1853; Weyers, ibid., 1857; Cossy, 'Rech. sur le Délire aigue des Epileptiques,' Paris, 1854.

§ 180. Many *other morbid appearances in the motory nervous system* may also complicate insanity. Sometimes transitory general convulsive states resembling hysterical attacks, or proceeding from great cerebral congestion or acute meningitis; sometimes chronic general convulsive forms, chorea-like movements, turning round and round, walking backwards or in a circle, and the like; sometimes chronic convulsions restricted to certain muscles,—for example, constant convulsive nodding of the head, convulsive lifting of the leg when walking, etc.; sometimes contractions of certain groups of muscles (of the extremities, strabismus), with or without paralysis succeeding. We have already spoken of these (§ 62), and of their unfavorable prognostic significance.

Of quite as serious significance are those *vague neuralgias*—hitherto too little considered—which are observed in all parts of the organism as fleeting pains, and, not unfrequently, at the period of transition of the disease to an incurable state of weakness. The fact of their frequency under such circumstances warrants us in considering them as of central origin, and as intimately connected with the insanity, and especially with the persistent organic changes within the cranium, which ordinarily take place at this period. They are often closely connected with those slight cutaneous neuralgias which give rise to ideas of being electrified, and by no means ought these to be discarded under the excuse of "rheumatic pains."

Finally, *the group of febrile symptoms* which so frequently accompany the first appearance of the insanity may be mentioned as a common complication, and one intimately connected with the disease of the brain. Rigors, heat, exhaustion, pains in the limbs, thirst, foul tongue; disordered appetite, bowels, and urinary secretion; epigastric tenderness, dryness of the skin, rapid emaciation—occur very frequently at the period when the symptoms of the cerebral disease begin to be manifested. Generally they disappear spontaneously or under the use of simple remedies in the course of a few weeks, or even days, and the insanity continues its course—with certain exceptions[1]—without fever. Not unfrequently these states, on account of the still slightly prominent cerebral symptoms, are regarded as gastric, rheumatic, catarrhal fever, which preceded the development of the mental disease, out of which this has "*developed*" itself from want of a crisis. Or the foul tongue, loss of appetite, and constipation are regarded as symptoms of some serious abdominal disease which is now termed the *cause* of the insanity. In such cases, an unbiased observation and physiological analysis of the symptoms, and their analogy with those of other cerebral diseases, will generally suffice to enable us to avert such errors.

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[1] See § 63.

BOOK FOURTH.

THE PATHOLOGICAL ANATOMY OF MENTAL DISEASE.

§ 181. WHOEVER attends not merely to the symptoms of disease, but also to the abnormal organic conditions from which these symptoms spring, will readily admit that in insanity the observation of post-mortem appearances is a department of psychology of the utmost importance. Here, in pathological anatomy, do we find a full answer to the question, *What are the special diseases* the symptoms of which we have previously become acquainted with either by themselves individually, or in combination with certain forms of disease? Here, also, is to be found the basis of a true diagnosis—that is, an anatomical diagnosis. To us post-mortem examinations are not mere employments from which we seek, after the death of the patient, to gratify an idle curiosity. We do not consider pathological anatomy in the light of a mere collection of curious facts, as a dry register of observed anomalies. We have not only to consider the presence or absence of such alterations generally, not only to establish their intimate connection with the morbid cause through which that discovered after death first originated, and to employ them for the preservation and treatment of living patients; we have also to consider whether a careful examination of pathological and anatomical facts will not assist us in forming conclusions of a still more comprehensive nature, and whether definite fundamental facts cannot be elicited which might throw a clearer light on the intimate nature, on the mode of progression of these diseases, as well as upon the whole physiology and pathology of the brain. If we do not deceive ourselves, this department of our subject has not been without such results.

CHAPTER I.

PATHOLOGICAL ANATOMY OF THE BRAIN AND ITS MEMBRANES.

§ 182. THE anatomical changes which indicate insanity, that is, which produce psychical anomalies during life, are naturally to be sought for within the cranium—in the brain and its membranes. According to the data which we at present possess, it is a well-constituted fact, that in the bodies of many persons who have been insane no anomalies in these parts are to be found. If we examine the great mass of uncertain records, and except the cases in which the insanity was cured before death, there still remains a number of cases, reported by careful special observers (and which may easily be confirmed in any asylum), where the cranial cavity and its entire contents presented altogether normal relations.

We ought to be quite as grateful to pathological anatomy for the confirmation of this fact, as for the discovery of anatomical lesions. For although in all cases of insanity we must assume a pathological affection of the brain, there is thus presented to us by these negative results, on the one hand, the strong analogy of cerebral disorders without anatomical changes to many affections of the spinal and peripheral nerves, in which there is likewise no anatomical lesion of the tissue; and, on the other hand, we thereby obtain trustworthy data for our prognosis and treatment.

But, in order that we may not form false conclusions from the fact that cases exist where no anatomical changes are present, it must be particularly borne in mind that, according to the statistics of recent careful observers, these cases always constitute the minority. We must estimate their numbers, not by the statements of those physicians who, though perhaps excellent administrators or theorists, have had no opportunity of studying the structure of the brain and its pathological changes—who understand merely how to make a rough section of the brain with scalpel and forceps, and, of course, constantly find nothing. We must consider how easily many very minute but, nevertheless, important changes—even exclusive of those which are only microscopically appreciable—may elude mere ordinary attention, and we ought, as a rule, to accept statements regarding the normal or abnormal condition of the brain from those only who, by the whole spirit of their writings, show that they are acquainted with pathological anatomy, that they acknowledge this pre-eminently, and that they know what is to be looked for and what is to be esteemed. Besides, in more recent times, the discovery of previously unknown changes, and a more definite anatomical and logical investigation of previously known facts, have tended greatly to promote the pathological anatomy of the brain; and just as we know for certainty that much that is important was overlooked by the older investigators, so may we anticipate still greater results from still more searching and minute investigations in the future.

Not only should these negative results, however, but even their theoretical application and the conclusions derivable from them, be received with favor. We must be careful not to underrate their importance on account of the occasional absence of anatomical changes after death, and to conclude that, for this reason, such anatomical lesions when present may not be the cause of the mental disorder. That would be similar to reasoning of the following nature: because cough and dyspnœa occasionally exist without any anatomical changes in the lungs, therefore in pneumonia these symptoms might not be the results of this pulmonary affection; because convulsions, spasms, paralyses, sometimes exist without organic change in the spinal cord, therefore, in cases of inflammation of the spinal cord, the convulsions, spasms, paralyses, etc., are not the direct results of this inflammation, but it is more probable that they have some other and unknown cause! Indeed, the mere discovery of any abnormal cerebral condition is only the first step in advance; and we must not rest content with this, or expect to recognize in every such anomaly the particular disorder from which the individual psychical anomaly directly springs. A knowledge of the intimate connection between kind of alteration and form of psychical disease has not yet been arrived at. It is, however, of great importance to discover whether in concrete cases palpable indications of disease exist in the crania of the insane, what they are, what appearances they bear, and how their form in general is related to the appearances of the mental affection as a whole.

The gross misconceptions held by the older exclusively psychological or theoretical school regarding the entire anatomical view of mental diseases, require in the present state of science no further refutation. Now, errors and one-sided views within the pathological anatomical school are rather to be guarded against. It does not by any means follow that the alterations which we discover in the cranium are the *immediate* causes of definite psychical anomalies, of this or of that form of delirium, or that the *individual symptoms* of the mental derangement are the *direct* result of the anatomical lesion. Certain attempts in this direction, among others those of an eminent German psychologist, are entirely misdirected; and will for a long time prove fruitless. The already discovered alterations can, as yet, only demonstrate that the brain generally, or, still more indefinite, that the cranial contents are diseased, and in what manner; but *how* a psychical disorder, or, to speak more plainly, how this or that particular form, arises from this disease in the case of some particular person, and not in other persons, although affected by the same alteration, cannot yet be explained with any degree of certainty. Doubtless, there exist many pathological lesions in the insane which have no connection with the mental disease; in particular, the various final processes, recent meningitis, softenings, apoplexy, etc.; these are fatal, and for the most part not accidental complications; and certainly, as these may occur acutely and cause death, so may they in many cases appear earlier, persist, recover partially, etc.—in short, present after death a morbid change of long standing which, perhaps, had very little connection with the symptoms of the mental disorder. To distinguish and to decide on each of these separately is the province of a critic of anatomical knowledge and experience. The anatomical view does not consist in the belief that every mental disorder *must* correspond to a palpable cerebral lesion —what must we expect to find in the brain of one who dies during sleep? and yet sleep is a change in the psychical functions even more decided than is observed in any form of mental disease!—the anatomical method consists in investigating what, according to experience, the post-mortem appearances in the insane are, and then, by comparing these lesions and the processes which lie at their foundation with the symptoms observed during life, to arrive at comprehensive anatomical views in regard to these cerebral affections. This doctrine is maintained in the first edition of this work, though not so explicitly stated.

Another misunderstanding, which we present need scarcely do more than mention, is this—that the pathological lesions in the insane are merely results of the mental disease. In this quibble a sort of last refuge is sought from the pathological anatomical modes of viewing matters; any attempt, however, at earnest inquiry as to how the psychical disorder could have this result has never yet been made. Consequently, a microcephalus or cerebral defect in idiots must in the end also be declared the *result* of the idiocy.

Authentic reports of autopsies in which the condition of the brain is stated to be normal are principally those of cases of uncomplicated recent insanity, in the forms of melancholia and mania; and, as a rule, anatomical changes are frequent in proportion to the duration of the mental disease, according as it presented symptoms of mental weakness, particularly of profound dementia, and, finally, according as it was complicated with paralysis. Still, cases presenting considerable acute anatomical changes occur as recent cases of primary insanity (for example, the mania of acute meningitis); and, again, many reports of autopsies of cases which correspond to chronic cases of dementia and advanced imbecility show an entire absence of any anatomical anomaly. Indeed, even of the most severe mental affection known, paralytic dementia—in which also, generally speaking, by far the greatest and most constant lesions are found—there constantly occur cases where nothing abnormal can be discovered by the methods hitherto in ordinary use. In the present state of science, such cases must be considered either as rare isolated observations, such as occur in many other departments of pathology, and hitherto beyond the reach of theoretical interpretation, or they must be accepted as proofs of the fact that even the most profound weakness of the psychical processes and of the motory acts may occur without change of texture in the brain—analogous to what is sometimes presented in the spinal cord; or—and this is especially applicable to the last-mentioned case—we must, according to a well-founded analogy, assume, that as when the naked eye can observe little or nothing, still the microscope may probably reveal important changes, so from future advances in such methods of research still further results may with confidence be expected; certainly, therefore, many of these cases ought to be viewed as affording only apparently negative post-mortem results.

The following figures may be cited as examples of the great differences which exist among observers in regard to the number of diseased and healthy brains met with amongst the insane. The renowned Pinel in 261 autopsies found only 68, Esquirol in 277 only 77, cases in which there were changes in the brain (Sc. Pinel, 'Recherches sur les Causes physiques,' etc., Paris, 1826, p. 9); Chiarugi in 100 cases found changes to exist in 95, Parchappe in 160 cases of uncomplicated mental disease in 152 ("Traité de la Folie;" 'Docum. necrosc.,' Paris, 1841, pp. 46, 141); Webster in 72 cases ('Med.-Chir. Transactions,' vol. xxvi., 1843, and 'Annal. Med. Psych.,' Mai, 1844, p. 445) found lesions within the cranial cavity in *all* of them; Lélut in 20 cases of acute mania found this in only 3, and in chronic mania and dementia in more than one-half of the cases 'Inductions sur la Valeur des Altérations de l'Encéphale,' Par., 1836, pp. 63, 76). In the Vienna Asylum, in 171 autopsies, absolutely *no* abnormality was discovered in only 19 cases ('Wiener Bericht,' 1858, p. 195); in Prague, in 318 cases, no abnormality of the brain or its membranes was discovered in 32 cases (R. Fischer, l. c., p. 114). It may, perhaps, be interesting to compare with these the anatomical statistics of a severe affection of the spinal marrow, viz., tetanus. Wallis ('De Tetano Disquis. Arithmeticæ.' Diss. Hal., 1837, p. 24) found, in a collection of 38 autopsies of persons who died of tetanus, evidences of inflammation of the nerve-cells (with softening, induration, and pigmentation) in 14 cases; other 11 cases presented inflammation without degeneration (hyperæmia); the remaining 13 presented nothing abnormal in the central organs.

§ 183. According to recent investigations, it may be considered a well-established fact that the majority of post-mortem examinations of the insane show anatomical changes to exist within the cranium. But is there ever any specific alteration in insanity? If by this we mean a change which everywhere, where generally an abnormal cerebral condition exists, must invariably and in the same manner be present, then this question must not only be answered in the negative, but considered as *a priori* false. A simple pathological reasoning must prove to us that the pathological psychical symptoms, differing so widely amongst themselves which are comprehended under the forms of melancholia, mania, dementia, etc., cannot possibly always have the same alteration of the organ for their foundation. It has never even been considered possible that, in diseases of the spinal cord, the very various symptoms of disordered sensation and movement could always proceed from one and the same anatomical lesion; it must be quite as clear that the various anomalies of self-consciousness, intellect, and will are not only *capable* of being excited, but *must* be excited, by very various diseases of the organ in question. On the other hand, if we reverse the question of the specialty of the anatomical lesion the question becomes,—Are there not anatomical changes with whose existence it is always necessary that a marked disturbance of the mental faculties, a mental disease, should exist? This must be answered in the affirmative. Indeed, there are certain structural diseases of the brain which always cause considerable anomalies in the mental functions, even insanity. A diffused inflammation of the gray substance, extending over a number of convolutions, has never been observed without profound mental disturbance, extensive meningitis of the convex surface (in previously robust individuals), considerable acute œdema of the greater hemispheres, rapid bilateral atrophy of the convolutions; a deeply penetrating alteration of the ventricular surface of any extent were never observed without psychical disturbance, particularly mental weakness. Generally speaking, it is far more the *diffuse*, the more general diseases, involving a large portion of the cerebral substance, or a great extent of its internal or external surface, than the circumscribed localized diseases, which are found in the insane; in particular, a comparison of the facts lying before us appears decidedly to support the view, *that the most important and most constant changes in the insane consist in diffuse diseases of the external layers of the cortical substance—that is, of the surfaces of the brain and of the membranes covering them;* and it would be justifiable, in many cases of insanity which correspond to palpable changes in the brain, to consider *that the chief and essential disease is that of the periphery of the brain.* Many facts also could speak in favor of an essential participation of the ventricular surfaces; but this point is as yet not so well established. Of the various sections of the cortical gray substance of the convolutions, we find the morbid change most frequent in the anterior and middle (superior) portions of the great hemispheres; many surgical observations agree with this where, in loss of substance from injury of the anterior and superior portions of the hemispheres, there most constantly resulted aberration and weakness of the mental faculties.

In the sequel we shall first describe the anatomical changes of the brain and its membranes which are met with in insanity. We shall describe them individually, according to an anatomical arrangement as they appear in recent researches, and then we shall, by way of summary, investigate what conditions of the organs in the cranium most frequently correspond to the various forms of insanity. The older pathological anatomical researches of Bonet and Morgagni, and the results of Haller's historical studies, are collected by Arnold ('Observations,' etc., 1788); the works also of Meckel, Chiarugi, Burdach, Greding, and Portal ought specially to be consulted. Parchappe ('Recherches sur l'Encéphale,' 2me Mémoire, 1838) has collected the most important of the older and more recent observations, especially those of his own countrymen. We may also consult Duhr, 'De vitiis quæ apud Amentes,' etc., Diss., Bonn, 1840; Güntz, 'De Anat. Pathol. Cerebri Vesanorum,' Lips., 1853; Webster, 'Med.-Chir. Transactions,' 1849, vol. xxxii., p. 115; R. Fischer, 'Path. Anat. Befunde,' etc., Lucern, 1854; Follet, 'Ann. Med. Psych.,' Oct., 1857, p. 477; Voppel, several valuable papers in 'Günsburg Ztschr.,' 1856, vii., p. 161; 'Zeitschrift für Psychiatrie,' xiv., 1857, p. 175; 'Archiv der Ges. für Psychiatrie,' i., 1858, p. 49; Otto, ibid., i., ii., p. 64; 'Wiener Bericht' (Wien, 1858), in many parts; Calmeil, 'Des Maladies inflamm. du Cerveau,' 2 vols., Par., 1859.

A. *The Cranium.*

§ 184. The influence of an abnormal conformation of the cranium is naturally most considerable upon the brain when the process of development is still progressing; this point has been already sufficiently noticed (§ 161). But it also appears that the same anomalies of the cranium which, in their higher degrees, limit the development of the brain and psychical faculties, and lead to idiocy, may, in their extremely moderate degrees, in which for a long time no special deviation from normal function is apparent, likewise prove a predisposing cause of those affections of the brain which give rise to the symptoms of insanity. It is true that we find the most various and most irregularly formed crania in individuals who have always been healthy and even in talented and intellectual men. But older (Foville) and more recent observers (W. Krause, Stahl, Seifert, etc.) distinctly that such irregularities occur in much greater proportion amongst the insane. These consist of the forms already described in the chapter on Idiocy—the too small, too low, and particularly the too short crania; in short, the various forms of asymmetry and malformation, especially those produced by premature ossification of the sutures, or unilateral or partial contraction of the cranial cavity, and, less frequently, microcephalus, owing to moderate hydrops ventriculorum dating from early infancy. It cannot be said of any one of these malformations that it is especially unfavorable; all seem to exert a certain predisposing influence, unless they are rectified by compensations (§ 161). The opinion that cranial deformities may be especially *the media of the hereditariness* of mental disease (Stahl, Voppel) is as yet still hypothetical; an hypothesis, however, deserving the utmost attention and careful research. A special form of abnormality of the cranium is produced by an artificial deformity, to which Foville in particular has directed attention.[1] In several provinces of France, especially Normandy and Gascogne, it is customary to fasten the head-dresses of newly born children, by means of bandages round the head, whereby their heads readily receive an elongated, pointed, cylindrical form. In these districts inflammation of the brain in children, and insanity in adults, is unusually common; a fact which is attested by Esquirol, who often wondered at the large proportion of insane in his native province (Gascogne), and by the statistics of the local asylums. Regarding the *thickness and texture of the cranial bones,* almost every observer has noticed the frequency of anomalies of the cranium in this respect. Greding found—concurring with more recent observers—in 216 autopsies, 167 instances of thickening, 38 of abnormal thinness, of these bones. This increase in bulk, hyperostosis of the cranium, is either associated with too great abundance of diploetic substance, or, more frequently, with great thickness, sclerosity, of the bone. It is the final product of an acute increase of nutrition, from time to time repeated; or it may be of a chronic and, to a certain extent, inflammatory process, which produces a successive series of new osseous layers. As the hyperostosis takes place at the cost of the intra-cranial space, and of the foramina and fissures through which the blood-vessels pass to and from the brain, it is frequently the cause of disorders of the circulation within the cranium, partial or general hyperæmia or anæmia; generally speaking, the changes of nutrition in the bones of the cranium cannot be without influence upon the processes of circulation and nutrition in the interior of the cranium. Considerable thickening and sclerosis of the cranium occurs, moreover, especially in dementia and epilepsy; in the latter it, as is well known, not unfrequently constitutes the sole (of which no explanation has as yet been given) anomaly. Depressions resulting from former injuries, traumatic and syphilitic exostoses, are also frequently met with; partial hyperostoses, of the kind previously mentioned, may also result from injuries to the head; and their gradual development corresponds with the psychical disturbance which, perhaps, appears for the first time long after the injury has been inflicted.

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[1] Foville, 'Anatomie du Système Nerveux,' etc., i., Par., 1844.

In many other cases among the insane, as also in epileptics, bony formations upon the internal surface of the cranium, in the form of needles and stalactites—sometimes, also, small exostoses, and osseous tumors and plates, external and internal, on the cranium—indicate an extinct localized inflammatory process, the products of which here remain in an ossified form; and the abnormal adhesions of the dura mater to the internal surface of the skull, sometimes limited, at other times general, frequently met with in the insane, have the same significance.

In the dura mater, scarcely any change is ever observed other than an occasional thickening, and an excessive tension or great laxity, according to the volume and consistence of its contents. The pathological changes upon its inner surface are connected with the so-called parietal layer of the arachnoid.

Larrey ('Clinique,' i., p. 329) has declared premature ossification of the cranial sutures to be an important predisposing cause of melancholia and suicide. At the present time these synostoses are considered primarily as causes of deformities of the cranium and of contraction of the cranial cavity—and it is certainly established, according to investigations of recent times, that to the latter a certain predisposing influence upon the origin of mental diseases is to be ascribed. See Virchow, 'Gesamm. Abhandl.,' p. 937, u. a. a. O.; Stahl, 'Ztschr. f. Psych.,' xi., 1854, p. 545; xii., 1855, p. 559; xvi., 1859, p. 1; Seifert, ibid., xi., 1854, p. 198; Krause, 'Ztschr. f. ration. Medicin,' 1858, p. 73; Voppel, 'Ztschr. f. Psych.,' xiv., 1857, p. 175; and 'Archiv der Ges. für Psych.,' i., 2, 1858, p. 49.—The statement of Kasloff, that in the insane there is frequently found a contraction (generally of one side only) of the jugular foramen, appears to have no special value, as inequalities of that kind are frequent in health: Hoffmann, however, declares (Günsb., 'Zeitschr.,' iii., p. 132) that, in reality, differences in size of the foramina jugularia are more frequently met in the insane than in the healthy. Finckelnburg has recently given the account of an interesting case of insanity arising from acute puerperal osteomalacia of the cranium ('Ztschr. f. Psych.,' xviii., 2, two cases).

Amongst those remarks upon the external parts of the brain, we have to include the condition of the *great vessels within the cranium*. Rigidity with atheroma or ossification of the larger arteries has been observed, in various degrees, in numerous autopsies of persons who have been insane. Comprehensive statistics regarding this occurrence are wanted. Hitchman found, in 94 autopsies of insane females in Hanwell, atheroma of the cerebral arteries in 37.[1] A similar condition may also be supposed to exist in the capillary arteries too small for investigation; in the sethere is also frequently observed narrowing of the calibre, owing to the development of connective tissue in the arterial walls, fatty degneration, etc.;

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[1] 'Zeitschrift für Psychiatrie,' ix., 1852, p. 124.

here and there, also, small (microscopic) aneurismal or more general dilatations. We may assume the existence of such states in the living in proportion as there is rigidity of the external, especially of the temporal arteries; their significance is the greater the earlier the age at which it is observed. The frequent occurrence of atheroma in connection with heart disease, and its disturbing influence on the circulatory process, has already been mentioned.

Larrey ('Clinique,' p. 330) has also remarked the occurrence of ossification of the arteries as well in home-sickness as in melancholia (for example, in his companion in arms, Monge, and in the celebrated Fourcroy, who both died melancholic). In the case of a child twelve years of age who committed suicide, there was found calcification of the cerebral arteries (Müller, 'Oestr. Med. Jahrb.,' 1844, Juli, p. 44). *Thrombosis of the cerebral sinuses*, occasionally discovered in the bodies of the insane (see R. Fischer, l. c., p. 9), has been hitherto observed only as a final process in connection with pyæmia and the like; accordingly, there is every reason to believe that the processes associated with this thrombosis, when more chronic in their course, also play a part in the production of mental disease; this was, perhaps, the case in a case of thrombosis mentioned in the Vienna Report (1858, p. 191). See p. 133.

B. *The Arachnoid.*

§ 185. One of the most frequent anatomical changes in mental disease is *opacity, thickening, and hypertrophy* of the arachnoid. There is no form of insanity where, if long continued, this has not been observed; it is especially frequent, in conjunction with other more series lesions, after paralytic dementia. It may generally be considered as the result of former chronic hyperæmia and inflammatory stasis; it accordingly occurs together with increase of the Pacchionion granulations—which depends on analogous processes—under all circumstances where habitual cerebral congestion existed during life, as in the case of drunkards, who, indeed, can rarely be considered as mentally healthy.

The products of former inflammation of the arachnoid may become ossified, and we frequently find such osseous concretions with rugged rough surfaces on the anterior surface of the brain; on the other hand, the development of connective tissue gives rise to abnormal adhesions to the pia mater and cerebral cortical substance, and to the dura mater and the skull: sometimes there is a complete agglutination of all these membranous layers. Fine granulations of the external surface of the arachnoid, similar to those of the ependyma ventriculorum, are, according to L. Meyer, frequently observed along with other important changes—thickening of the skull, opacity and thickening of the delicate membranes, atrophy of the brain, etc.

Hyperæmia of the arachnoid, especially in the form of ecchymosis, frequently occurs as a sign of acute recent morbid processes: the same may be said of the inflammation of the actually existing parietal layer of the arachnoid, described by Virchow as pacchymeningitis interna, and which is accompanied by the formation of firm pseudo-membranes, or thin, delicate, almost gelatinous structures, interspersed with sanguineous spots and an acute growth of cellular tissue.[1] With regard to the contents of the arachnoid cavity, there is frequently found in it an increased quantity of serous fluid, which is sometimes the result of habitual hyperæmia and a varicose state of the blood-vessels, sometimes of secondary atrophy of the brain. It is always accompanied by thickening of the membranes and infiltration of the pia mater.

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[1] These changes, which were formerly described, especially by French observers (Calmeil, Bayle, Prus, Aubanel, etc.) as "pseudo-membranes of the arachnoid," were for a long time viewed in Germany more as extravasations of blood and the consequences of this; but Virchow has again pronounced them to be in great part actual products of inflammation (pacchymeningitis).

Of special importance, however, are the frequent and spontaneous hæmorrhages into the sac of the arachnoid (hæmatomata) which have been noticed by all observers, particularly in paralytic dementia, but not unfrequently after other states of weakness, and even after acute or chronic mania. In paralytic dementia, they often seem to occur during the frequent attacks of cerebral congestion with loss of consciousness (see § 178). Their diagnosis during life is, however, uncertain; because, on the one hand, when slight they pass off without giving rise to any symptoms; and, on the other hand, their symptoms—those of compression—may readily be mistaken for those of atrophy and of encephalitis; and, further, because compression of the brain may be due to other causes.

These extravasations of blood almost always occur upon the convex surface of the hemispheres. As they have usually existed for a considerable length of time, they are generally found in a state of transformation, which in certain cases may lead to mistakes regarding their true nature.

When there is a considerable degree of extravasation, we observe a large floating cyst under the dura mater, firmly adherent to the membrane previously described, and almost free on the side in contact with the visceral layer of the arachnoid. From the borders of the sac there often extends a thin, rust-brown membrane, which finally terminates in a thin expansion (Rokitansky). The sac contains a thick, dark-brown, serous fluid; this becomes clear according to the age of the extravasation. The presence of this cyst causes compression and atrophy of the affected hemisphere, with contraction of the ventricles, increased consistency of the cerebral substance, and mechanical hyperæmia and infiltration of the meninges. The organized walls of the sac appear to be capable of being formed as well by the peripheral layer of the coagulated fibrine as by the fibrinous exudation of an inflammation originating secondarily around the clot.

It is otherwise when the amount of blood extravasated is inconsiderable. These small extravasations, after absorption of the watery portion, leave behind them at first rust-brown, then yellow, and afterwards almost quite colorless lamellæ of coagulated fibrin. When observed while still recent, they consist of a meshwork of reddish fibres, sometimes as thin as those of a spider's web, and mixed with small accumulations of blood-corpuscles: afterwards they become pale. When they consist of several layers, it is probable that they have originated from several successive extravasations, the most recent of which reveals the hemorrhagic nature of the whole. When the quantity is small, and after undergoing transformation, these extravasations of blood finally constitute a simple expansion upon the internal aspect of the dura mater, which may be easily overlooked or erroneously considered to be an inflammatory exudation.

In consequence of the work of Virchow ('Würzb. Verhandlungen,' 1857, ii., p. 134), which moreover was preceded by J. Hoffmann's (Günsburg, 'Ztschr.,' iv., 1853, p. 176) assumption that in these hemorrhages we have essentially to do with hemorrhagic inflammations, our ideas in regard to these extravasations have been modified, inasmuch as it is now assumed that these ordinarily occur between the layers and meshes of the product of previous pacchymeningitis (pseudo-membranes, newly formed cellular tissue), the blood comes from the newly-formed vessels of the latter, and therefore these hemorrhages generally presuppose the existence of a former inflammatory process. These processes cannot be considered as primary fundamental disorders of insanity (although in exceptional cases this may occur; see 'Wiener Bericht,' 1858, pp. 49–51); they occur much more frequently in the course of already existing mental disease: the larger hæmatomata which compress the brain may, however, considerably aggravate the symptoms of mental weakness.

Hemorrhage occurring beneath the arachnoid is quite a different and much more rare process; it has no special significance in mental disease (being generally traumatic, or consecutive in general hemorrhagic diathesis, etc.). Here the hemorrhage is from the pia mater, in which ecchymotic patches are observed; the blood may extend with the cerebro-spinal fluid into the ventricles and vertebral canal.

c. *The Pia mater and Surface of the Brain.*

§ 186. The pathological conditions of the pia mater and of the surface of the brain are so intimately connected, that it is necessary to consider then simultaneously.

Hyperæmia of the pia mater (and also, in a greater or less degree, of the contiguous cerebral surface) is frequently met with in autopsies of the insane. Its pathological significance has been greatly over-estimated, as in the first edition of this work. Slight injection of the vessels, and many states merely connected with the form of death, have been considered pathological; but, exclusive of these, there are many cases in which, from the changes found after death, increased fulness of the vessels during life is to be assumed, and to this, therefore, a certain connection with the morbid state is to be ascribed. We must here distinguish the following two principal cases:—

A high degree of hyperæmia of the pia mater and surface of the brain may exist as an acute or sub-acute condition, especially in violent mania, proving rapidly fatal; it appears as a very *intense*, uniform injection of the smallest vessels with small stellate ecchymoses; this may be so intense, that, having regard to the final symptoms of the disease, to it may be attributed the fatal issue (apoplexia vascularis): there is frequently connected with it a slight red softening of the cortical substance. Such states are observed especially after the violent maniacal excitement of acute delirium (§ 138); and should they not constitute the sole pathological lesion in this form, they at all events play an important part in its production. The existence of this hyperæmia during life is demonstrated, on the one hand: by the changes in the cortical substance of the brain, and, on the other hand, by the symptoms, which are frequently very marked, of cerebral congestion. The mechanism of its production is, at present —as of "active" hyperæmia in general—unknown. In the cortical gray substance, this hyperæmia frequently presents itself as a red coloration of of various shades, attaining sometimes, in very acute cases, the dark-red hue of erysipelas (Foville), or as a spotted, variegated, striated coloration, with various dark-red spots (small extravasations of blood). At the commencement there is, at the same time, increase in volume and in consistence of the cortical substance. This hyperæmia may easily pass into actual inflammation.

A very different, and to a certain extent completely opposite, kind of congestion, more connected with the finer and larger veins, is due to a varicose state and abnormal formation of sinuses of these vessels; there is at the same time thickening and œdema of the delicate membranes. This form is altogether chronic in its course, and is frequently associated with a greater or lesser degree of atrophy of the brain ("ex vacuo"); but it may be also procured by heart-disease, pulmonary affections—perhaps functional disturbances in the circulatory and respiratory functions, contractions of foramina, etc.; in short, from mechanical causes which impede the venous return. The significance of these hyperæmias, especially of that originating *ex vacuo*, is naturally not very great: the mechanical venous stases, on the contrary, always exert, in individuals predisposed, a certain influence upon the development and form of the disease.

Ekker (' De Cereb. et Med. Spin. Syst. Vas.,' Traject., 1853) has made comparative miscroscopic measurements of the smaller blood-vessels and capillaries of the cortical substance in mania, in dementia, and in health, and finds that in mania they are considerably dilated. Ramaer found this to be the case with regard to the pia mater.

Anæmia of the pia mater and cortical substance, which is sometimes met with in acute and chronic conditions as remarkable pallor of the cranial contents, merits, under certain circumstance (deduced from the clinical observations of the case), great consideration. It may be a co-symptom of general anæmia. The great influence which this state of the blood exercises, especially in females, and when acute in its origin, upon the development of the most varied nervous and psychical anomalies, is well known; and it is also admitted that all sorts of symptoms of irritation or of torpidity of the central organs may originate from this source alone. We cannot speak so positively regarding the cause and symptoms of anæmia limited to the brain: contraction of the small arteries through atheromatous processes may occasionally be assumed as the cause of special anæmia. We must always consider that there is connected with this an insufficient and abnormal nutrition of the brain. When the anæmic state is developed slowly, and its course chronic, it appears principally to give rise to states of intellectuál weakness and dementia.

As the final result of chronic hyperæmia ex vacuo, and from mechanical causes, we observe chronic opacity and serous infiltration—*œdema of the pia mater*. This œdema is extremely frequent, especially after chronic mental disorders (for example, in the Vienna asylums in more than 50 per cent), and principally after the secondary forms with well-marked mental weakness. It frequently occurs, therefore, in connection with atrophy of the brain, chronic hydrocephalus, œdema of the brain, coloration of the cortical gray substance, rigidity of the arteries, etc.,—in short, with states of marasmus of the brain,—and appears to be of much less significance in the origin and form of the psychical anomalies than the marasmus itself.

§ 187. *Inflammation proper* of the pia mater produces sometimes merely a more or a less rapid thickening of the membranes, together with adhesion of these to each other. In the cortical gray substance, however, the ordinary result of inflammation in the nervous tissue is *softening*, sometimes the secondary transformations of the softened tissue, and in both together the important *adhesion of the pia mater to the surface of the brain*. These consequences of meningo-cerebritis are ordinary conditions in the latter periods of certain forms of insanity.

Recent conditions of this kind rarely occur after states of depression, more frequently after acute mania (see § 186). Thus we frequently find, after sudden death in acute mania, intense hyperæmia of the cortical substance, particularly of its middle layers, with (inflammatory) wine or violet-colored softening or sponginess of the tissue, which, if the patient continues to live, undergoes a still more profound alteration—viz., hardening and atrophy of the tissue,—dementia being the result.

These inflammatory softenings of the gray substance are sometimes very difficult to recognize, when they occur with very little red coloration, where the sole symptom of the inflammation is simple softening of the cerebral substance to a uniform pulp. Many observers have found the various layers of the gray cortex separately diseased: Sc. Pinel, redness of the middle layer in mania; Baillarger, redness of the inner aspect of the four internal layers, or of the three gray strata.[1] Most frequently the inflammation is of the most superficial layers, combined with that of the pia mater; the membrane adherent to the cortical substance takes with it, when detached, the superficial layers which are adherent to it, so that an uneven, bloody, torn surface remains. Although this adhesion and superficial softening, which particularly affects the convolutions of the superior convex and internal contiguous surfaces of the hemispheres, or even the Ammonshorn, occurs now and again in simple chronic insanity, particularly in the secondary states of weakness, in the mental disorders of the drunkard and epileptic, still it is by far most frequent in paralytic dementia, and constitutes one of the most important organic elements of this affection. Calmeil found it to be the most frequent and most constant lesion in general paralysis; and Parchappe,[1] in eighty-six cases, never saw profound and extensive softening of the cortical substance, especially of its middle layer, absent; and the pia mater was adherent to it in all but nine cases: in Vienna, again, this occurred in not quite half of the cases of paralytic dementia.[2] These inflammatory softenings, here, as in other nerve-tissue, afterwards pass into a state of atrophy and induration. It is always the most superficial layer which first becomes atrophied and indurated, and as a callous, thickened membrane, adheres to the likewise dense and tendinous pia mater; the atrophied tissue soon becomes remarkably pale, and it is always in the most external layer that it is most strongly marked. In the middle layers the softening still continues, and the superficial layers may now be pulled off as a coherent, somewhat consistent membrane, leaving behind an uneven, pulpy surface, like that of a roasted apple when the skin is peeled off. Should the middle layer be only moderately softened, we may be led to the erroneous conclusion that no softening exists, if we do not take the induration into account, remembering that it originally arises from softening; the atrophy of the cortical substance through this kind of shrivelling—analogous to the shrivelling of other parts after inflammation (cicatricial tissue)—may be so considerable as to reduce it to an extremely thin layer, and it may even seem to have completely disappeared.

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[1] "Recherches sur la Couche corticale," etc., 'Mém. de l'Acad. de Médecine,' 1840, p. 172.

All these disorders in which, according to the microscopic investigations of Rokitansky and other observers, increase of cellular tissue in the gray substance is the principal result of the inflammation, are, as we have before remarked, associated with dementia, and in particular with paralytic dementia.

D. *The Cerebral Substance.*

§ 188. *Volume and consistence of the brain.*—In certain cases we find in insanity, as well as in epilepsy, *hypertrophy* of the brain. In such cases, the skullcap, after having been removed, cannot be replaced; the membranes are thin and dry, the ventricles small, and the convolutions flattened. Sc. Pinel[3] states that he has several times met with conditions of this kind after paralytic dementia—increase of cerebral substance, with atrophy of the cortical gray substance; a statement which, as yet, stands so isolated that little value can be attached to it. The acute, dry swelling of the cerebral substance, which frequently occurs as an important epiphenomenon at the termination of many other cerebral diseases (softening, tumors, etc.), is associated with anæmia of the brain and its membranes, and in the present state of our knowledge may be regarded as a peculiar acute hypertrophy, is, from its nature, very rare after mental disturbances, and has no connection whatever with these affections.

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[1] L. c., p. 249.

[2] 'Wiener Bericht., 1858, p. 237. This statement is worth mentioning, as opposed to the opinion that chronic meningitis (often with inflammation of the cortical substance) always lies at the foundation of paralytic dementia, or, to use a better expression, of the paralytic mental disorders. Bayle, in 1855, thirty years after the publication of his first work, returned to the opinion which he then held, viz., that this was the case; Duchek and L. Meyer suppose meningitis to be the principal cause of the maniacal excitement in paralytic monomania.

[3] 'Path. Cérébr.,' p. 369.

An important lesion, and one which is frequently met with in the insane, is *atrophy of the brain*—sometimes of the convolution, sometimes of the entire cerebral mass. It may appear primarily as senile or premature marasmus of the brain; and it is then the fundamental cause of an insanity which, from the first, has the character of mental weakness. Or in the convolutions, especially in the cortical substance, it may be the result of former structural disease, of inflammation, of prolonged hyperæmia, or of compression, owing to an extravasation or exudation, just as the apex of the lung becomes atrophied when compressed by a false membrane, or the heart under the influence of a strong pericarditic exudation (through compression and destruction of the capillary system).

The convolutions are thinner than in the normal state; but not unfrequently the atrophy takes place unequally, so that their surface, especially in the anterior portion of the hemispheres, is uneven. The gray substance, in particular, is considerably reduced in volume, and of a brown or wine color, sometimes more incompact than in health, but more frequently it is hard and shrivelled. The white substance is often of a dirty-white color, very tough, and crumples up when cut; occasionally it presents that porous form, that cribriform aspect, which is seen in the substantia perforata of the normal brain, and which is the result of chronic congestion and dilatation of the cerebral vessels in the atrophied organ (état criblé). Here the cellular tissue presents that special increase discovered by Rokitansky: the originally soft cellular tissue becomes indurated and retracted, and takes the place of the nerve elements which have disappeared; colloid masses, so-called corpora amylacea, occur; the nerve-tubes are destroyed, shrivelled, etc. The vacant space in the cranium is occupied partly by hypertrophy of the bones, partly by thickening of the membranes, especially by œdema of the pia mater, which sometimes lies over an atrophied convolution like a floating sac, or by effusion of fluid into the cavity of the arachnoid; partly also by dilatation of the ventricles, which become filled with fluid. The vacuum sometimes even gives rise to sanguineous effusions—certain apoplexies of the arachnoid may be due to this cause.

These general or circumscribed atrophies are frequently observed as the fundamental lesion in secondary dementia, after former states of exaltation, after repeated attacks of delirium tremens, etc. In 122 cases of chronic insanity observed by Parchappe,[1] there was a notable diminution in the convolutions in more than one-half; in 38 cases of recent insanity, this was observed only once.[2] But the states of atrophy of the cortical layer and of the entire brain are especially peculiar to paralytic dementia; they are not, however, constant in this affection, and the degree of the dementia is not always in proportion to that of the atrophy.

The induration, sclerosis of the cerebral substance, is essentially an increase of cellular tissue—the formation of true connective tissue, and more or less atrophy. In the highest degrees, the medullary substance is of the consistence of a hard-boiled egg, and when cut is as resistant as a piece of caoutchouc; the color is generally dirty-white, blue, gray, without sanguineous points; and the fibration is, notwithstanding the great hardness of the brain, indistinct. There are sometimes observed in it traces of former apoplexies, with cavities filled with serum, which when cut through resemble the holes in a cheese. This induration corresponds entirely to the various forms of dementia.

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[1] L. c., p. 140.

[2] And this in a patient affected for the third time. Obs. 22, pp. 19, 50.

Here, with atrophy of the brain, would be the place to consider the results obtained by weighing the brain. *A priori*, we might imagine that the weight would best show the diminution in volume. Two circumstances, however, render the estimation of results arrived at in this way very difficult: on the one hand, the weight of the brain varies considerably, even in healthy individuals; and on the other hand, the specific gravity of the brain in diseases appears occasionally to undergo such deviations that the weighing of the organ must thereby afford less useful results. Generally, however, the entire study of the extraordinary and of the pathological weights of the brain is in a great measure confusing and undeserving of confidence (see R. Wagner, 'Nachr. v. d. G. A. Universität zu Göttingen,' 1860, No. 7, No. 16). The general results at which Parchappe arrived (l. c., p. 142, and 'Comptes rendus,' 31 Juill., 1848) appears to me to be the most practical, namely, that an average moderate diminution of weight takes place in insanity generally, and particularly in chronic cases; he even considers it proved that there is a gradual diminution in the weight of the brain corresponding to the progressing diminution of the intelligence. Further, the more recent investigations (Skae, 'Med.-Chir. Review,' Jan., 1853; Sankey, 'Journal of Psychol. Med.,' 1855, p. 573; Bucknill, 'Brit. and For. Review,' Jan., 1857) regarding the mode of determining the specific gravity in certain abnormal states appear to be of interest: the older investigations in this direction (Meckel, 1764, Leuret and Mitivié, 1832) were entirely without result. It must be admitted that discrepancies exist between these new investigations, but they are such as may in part be accounted for. While, for example, Skae and Sankey consider that in general there is an increase in the specific gravity of the brain in insanity, Bucknill found an average lower specific gravity: still he, too, found an increase in "interstitial albuminous deposit in the brain" (increase of connective tissue?); and it is indeed possible that the two other observers include many brains of this description. According to Bucknill, there is also a kind of atrophy of the brain in mental disease which manifests itself solely by diminution of the specific gravity—a kind of fatty degeneration of the cerebral substance without diminution in volume. But the methods hitherto employed in determining the specific gravity of the brain are so unsatisfactory, that even these statements cannot be considered conclusive; they rather show the necessity of more perfect modes of investigation.

§ 189. *Amount of blood in the brain.* General hyperæmia of the entire brain is sometimes observed in recent cases of insanity; in its highest degree (turgescence of the entire brain, dark-red color of the cortical substance, strong injection of the pia mater and arachnoid, rosy hue of certain portions of the white substance), it is sometimes the cause of sudden death in acute mania, after having produced apoplectiform collapse. Altogether it is more rare than hyperæmia limited to the pia mater and cortical substance of the convex surface of the brain. When the disease has lasted for a long time, and especially *within* the atrophied brain, the amount of blood is generally diminished. We have already spoken of the mode of production of cerebral hyperæmia. Very often it is limited to certain parts of the brain; in the white substance its higher degrees appear as variegated spots of a rose, violet, or lilac color, and may give rise to exudations and inflammatory softenings.

The various observations regarding the frequency of apoplexy in the insane do not all correspond. Esquirol, Georget, Guislain, Jacobi, and

F. Hoffmann seldom met with it; Webster, on the contrary, found effusion of blood into the brain 13 times in 72 autopsies;[1] I have seen it occur in acute mania. It is at least certain that traces of former small apoplectic clots are by no means rare; sanguineous apoplexy also may be sufficient to produce incurable dementia, by the destruction of cerebral substance, the compression, the subsequent inflammation and induration of neighboring tissue, which it entails.

Amount of serum in the brain (œdema of the brain).—Special attention has been directed to œdema of the brain by the work of Etoc-Demazy.[2] According to his opinions, which are also in part advocated by Sc. Pinel, we are led to consider acute œdema of the brain as essential in melancholia with stupor and immobility (§ 123), and as the fundamental cause of this entire group of symptoms. This statement, however, has not been confirmed: œdema of the brain is not at all constant in this affection, and neither in mental nor in general pathology do we know of any group of symptoms which is quite a characteristic of this affection of the brain. In mental, as in other diseases, we find slight œdema of the brain under the most various circumstances: in its higher degrees it is sometimes observed after states of exaltation and of depression, but especially after paralytic dementia; in general, it is associated with anæmia and more or less atrophy of the brain.

E. *The Ventricles and Internal Parts.*

§ 190. *Dilatation of the ventricles* (hydrocephalus chronicus) is frequently found in the insane. It rarely can be considered as having originated in infancy; in the great majority of cases it is developed during the disease, together with diminution of the cerebral mass and more or less disease of the ventricular surface. Most frequently it is merely the necessary result of atrophy of the brain. It is observed, therefore, after all forms of insanity (*i. e.*, it may have originated in these conditions, even in states of depression or exaltation of sentiment), but more particularly after protracted states of weakness, and, above all, after paralytic dementia (together with œdema of the pia mater, the cerebral substance, increase of cellular tissue in the latter, osteophytes, etc.): it is also frequent in the insanity of drunkards. In very few cases can it be considered the primary process and fundamental cause of the symptoms (*i. e.*, acts by paralyzing the mental fáculties through the pressure which it exerts); in general it is to be considered as secondary, consecutive to atrophy of the brain, the latter state being the essential pathological lesion.

Partial *contractions* and shortening of the ventricles, and *adhesions* of their surfaces (particularly in the posterior and inferior cornua), are by no means rare in health, but much more frequent in insanity; Greding, Esquirol, Ferrus, especially Bergmann[3] (in chronic dementia—adhesion of the posterior cornua, according to his account, in several hundred cases), have observed these anonalies; and the latter considered them—but incorrectly—to be the special pathological lesions in chronic dementia. They may be regarded as results of slight inflammation of the ependyma, and as such have a certain though very inconsiderable pathological interest.

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[1] 'Med.-Chir. Transactions,' vol. xxvi., 1843, p. 413. In his recent work (1850) he states that in sixty-seven post-mortem examinations of patients in Bethlehem he found extravasation of blood in fifteen.

[2] De la Stupidité considerée chez les Aliénés,' Paris, 1833 (ten cases and four autopsies).

[3] 'Ztschr. f. Psychiatrie,' 1844, No. 2.

In chronic hydrocephalus we generally find the ependyma ventricularum thickened, covered with granulations, and of a leathery consistence; more rarely the ventricular surface is covered with false membranes or cretaceous plates: the former are sometimes found in paralytic dementia.[1]

The presence of so-called *hydatids* of the vascular plexus is too common to be considered an essential alteration: Devaux found a free hydatid as large as an acorn in the right lateral ventricle (with ecchymosis of the cerebral surface) after nostalgic melancholia with violent headache (Nasse, 'Zeitschrift f. Anthropologie,' 1823, ii., p. 501); Bergmann discovered a formation of pretty large crystals of double phosphate in both plexus chorioidei, in a case of mania with mental weakness.

Recent, especially white softenings of the ventricular surfaces occasionally occur as the cause of death in acute cases; their chronic induration is sometimes associated with dilatation of the ventricles in atrophy of the brain (paralytic dementia).

Regarding the *pineal gland* (see also Greding, 'Vermischte Schriften,' Altenburg, 1781, p. 180), Bergmann has already shown, in his earlier works (Nasse's 'Zeitschrift f. Anthropol.,' 1825, i., p. 173; Holscher's 'Annalen,' l. c., pp. 510, 523, 529, etc.), that in autopsies of the insane we frequently find considerable tumefaction and luxurious growth of the vascular plexus around the gland, in part together with an almost general hypertrophy of its pia mater, a border of granulations, an adhesion of the pineal gland to the vascular plexus on the lower aspect of the corpus callosum, and the like. Subsequently ('Zeitschrift f. Psychiatrie,' 1844, l. c.) this observer declares, in numerous publications, the abnormal tumefaction of the vascular plexus, displacement and adhesion of the pineal gland, to be one of the most constant alterations in chronic partial dementia; this opinion, however, does not appear to me to be at all founded on fact.

The *pituitary gland* also presents in insanity as well as in epilepsy, occasional examples of pathological change. Amelung (Nasse, 'Zeitschr. f. Anthropologie,' 1824, p. 352) found it transformed into thin purulent matter, after monomania with fixed ideas and suicidal tendencies; F. Arnold ('Bermerkungen über den Bau des Hirns und Rückenmarkes,' p. 203) observed suppuration of its posterior lobule after general paralysis. In a maniac in the Vienna Asylum there was found —together with hydrocephalus chronicus, œdema meningum et cerebri, and exostosis basis cranii—hypertrophy of the gland; its posterior lobe was transformed into a soft tumor of a grayish-red color, almost as large as a walnut, and filled with a creamy fluid; the sella turcica was considerably atrophied ('Wiener Bericht,' 1858, p. 189).

The *cerebellum* has as yet received comparatively little consideration; nevertheless, Bergmann's observations regarding the ventricular surfaces—granulation in the fourth ventricle, etc.—refer also in great part to the cerebellum, and Foville states that he has frequently met with adhesions in the pia mater to its surface along with a certain constancy of the symptoms during life. Besides, there are also many descriptions of rare diseases of the cerebellum in paralytic dementia by Arnold, Stolz ('Oestreich. Jahrbücher,' März, 1844, p. 268), Lélut ('Ann. Méd. Psychol.,' Mai, 1844, p. 462), etc.

§ 191. In reviewing these anatomical changes in the brain, it may perhaps surprise us that no mention has been made of the serious degenerations which result from the production of pseudo-plastic formations within the organ (cancer, tumors, upon the basis cranii, tubercles, parasites, etc.). In reality these affections are rarely met with in asylums for the insane. It is not that they do not produce serious psychical anomalies—in the latter stages of these cases states of mental weakness, and sometimes even profound dementia,[2] are usually present, and at the commencement they are frequently accompanied by a melancholic disposition or by maniacal excitement. These, however, are not in general the most striking symptoms; the commencement is rather characterized by "apoplectic symptoms,"[1] especially severe motory disorders (convulsions, paralyses, etc.); and these are the more constant according as the morbid process affects the cerebral substance to only a certain depth: the existing psychical disposition, the loss of memory, etc., are merely accessory symptoms—therefore (p. 9) the affection is not classed amongst mental diseases, and the patient is not sent into an asylum. In this relation and its immediate consequences lies the simple explanation of the apparent anomaly brought so prominently forward by the opponents of the pathological anatomical mode of consideration, viz., that very slight anatomical changes of the brain produce an effect (insanity) which the most serious and most profound alterations do not. Nevertheless, profound alterations of the cerebral substances are constantly and frequently found after death in the insane.

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[1] For example, Macquet, 'Annal. Méd. Psych.,' Mai, 1844, p. 464.

[2] In the last stages of tumors, encephalitis, abscess of the brain, etc., there is frequently such profound dementia as is not even seen in the lowest grade of idiocy. These patients occasionally behave as animals do after the abstraction of the hemispheres.

I again refer to the cases of Stoltz and Lélut, to a case cited by Romberg (Nasse, 'Zeitschrift für Anthropologie,' 1823, iii., p. 195), where, after mania without paralysis, four "hydatids" were found penetrating several lines into the cortical substance, together with pseudo-membranes upon the arachnoid, and mentions the following cases by way of example:—In a melancholic in the asylum at Prague, there was found in the right cerebral hemisphere a cancerous nodule as large as a hen's egg, together with opacity and thickening of the membranes and slight chronic hydrocephalus (R. Fischer, l. c., p. 89); in a patient who, after headache and excitement, fell into dementia, there was found a fibroid tumor the size of an egg in the centre of the brain, involving the septum, fornix, etc. ('Wiener Bericht,' p. 190); the point of a penknife surrounded by hardened tissue in the cerebral substance after dementia with epilepsy (ibid., p. 191); a sharp osseous concretion in the fourth ventricle, with œdema of the membranes after mania; recent and old tubercle of the brain after dementia and mania (ibid.); tuberculosis of the pia mater with encephalitis (ibid., p. 212); chronic tuberculosis of the brain with mental disease of one year's standing (Finkelnburg, Virchow's 'Arch.,' xx., 1861, p. 524); finally, the numerous cases of cysticercus of the brain, regarding which the following works may be consulted:—Med.-Chir. Transact.,' vol. xxvii., 1844, p. 12; Günsburg, 'Zeitschr.,' i., p. 62; ii., p. 274; Virchow's 'Archiv,' ii., p. 84; 'Correspondenzblatt für Psychiatrie,' 1858, 8; 'Zeitschrift für Psychiatrie,' x., 1853, p. 294; xv., pp. 426, 680; xviii., p. 66; R. Fischer, 1854, l. c., p. 8.; 'Wiener Bericht,' 1858, pp. 190, 207, 268, 308; 'Archives Génér.,' 1859, Mars; 'Gaz. d. Hôpit.,' 1860, 22.

A consideration of the pathological changes which have been described shows that the principle expressed in the statement made by Esquirol towards the end of his famous career (1835), viz., that pathological anatomy has done nothing towards establishing the material conditions of insanity, no longer holds good; it may even be admitted that from the pathological anatomical stand-point of that time something definite could be said regarding mental diseases. Keeping in view the great and well-constituted results, negative as well as positive, and altogether excluding rare and more isolated observations, we shall attempt, in the following paragraph, to compare the various states of psychical disease with the anatomical conditions which most frequently correspond to them. With this view, we shall divide the various cases of insanity into three classes: 1st, Acute recent cases of melancholia and mania; 2d, Chronic cases of protracted, exhausting melancholia and mania, partial dementia and dementia; 3d, Paralytic dementia.

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[1] See 'Diagnost. Bemerkungen,' etc., by the Author, l. c.

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I. *Acute Insanity.*

§ 192. (1.) As in a considerable number of cases of acute insanity the brain, on anatomical examination, appears perfectly healthy, it must, in the present state of science, be assumed that the symptoms very often depend upon simple nervous irritation of the brain, or upon disorders of nutrition which are as yet unknown.

(2.) When palpable disorders exist, they consist chiefly in anæmia, with more or less serous infiltration, or (more frequently) in hyperæmia of the entire brain, and particularly in simple and ecchymotic hyperæmia of the delicate membranes and cortical gray substance. These hyperæmias appear sometimes to produce, and at other times merely to accompany, other morbid processes of nutrition which lead to further consequences.

(3.) This hyperæmia is frequently accompanied by thickening and opacity of the membranes, the result of chronic stasis. This may, in certain cases, proceed from the same causes as the hyperæmia itself; in others, however, it may be the result.

(4.) There is no constant distinct anatomical distinction between melancholia and mania: the disorders in both forms are, nevertheless, not entirely identical.

(5.) In melancholia the brain appears perfectly healthy more frequently than in mania;[1] when an anatomical lesion exists, it does not consist in hyperæmia so frequently as in mania, but rather in anæmia with greater consistence of the cerebral substance, or with more or less serous infiltration.

(6.) Mania presents more rarely than melancholia no lesion or simple hyperæmia. The hyperæmia is more profound and more intense (sometimes attaining to an erysipelatous hue of the entire gray cortex), and it more frequently proceeds to inflammation and softening, which affects the cortical substance in only certain layers, sometimes the middle, sometimes the external layers. The rapid occurrence of extended softening of this kind frequently corresponds to a state of profound dementia which precedes death. The intense hyperæmias which accompany or produce the softening appear partly to determine the violent maniacal excitement. Frequently also, when the mania is of long standing, there is found pigmentation of the cortical gray substance.

II. *Chronic Insanity.*

(1.) Cases in which no anatomical lesion is found are here rarely observed; the same may be said of simple hyperæmias; opacity and thickening of the membranes are common (much more so than in acute insanity).

(2.) Many cases present lesions which are never observed in the former class: namely, atrophy of the brain, particularly of the convolutions; chronic hydrocephalus, effusions into the subarachnoid space, pigmentation of the cortical substance, extended and profound sclerosis of the brain.

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[1] Besides many observers whom we have already mentioned, Bertolini and Bottex agree in this; likewise most of the more recent observers: see Vienna Report, p. 198.

(3.) Here, softening is not so frequently met with in the superficial cortical layer as pigmentation, superficial induration and adhesion of the pia mater; all in very various degrees.

(4.) In these states, but perhaps also in the acute stages, slight superficial inflammations of the ventricular walls must necessarily be of frequent occurrence; the granular condition of the ependyma and the frequent adhesions of the ventricular surfaces demonstrate this.

(5.) When the disease reaches the chronic stage, hyperæmia ceases; when it does exist, it is of the nature of hyperæmia ex vacuo; sometimes the more or less atrophied brain is anæmic and œdematous. All the changes in the brain are less indicative of active processes than of consecutive states and residues of former processes, and of marasmus—corresponding to the character of the symptoms observed during life.

(6.) Between partial dementia and dementia there is as little difference, anatomically, as between melancholia and mania: still, generally speaking, considerable atrophy of the brain corresponds to a condition of profound mental weakness. (The reverse, however, does not hold good.)

III. *Paralytic Dementia.*

(1.) Even here, cases are occasionally met with where no palpable changes exist appreciable to the naked eye; but these are rare and of slight significance, as we know that in such cases the microscope reveals important anatomical changes.

(2.) The changes most frequently observed in general paralysis are great œdema of the membranes, adhesion of the pia mater to the cerebral surface, grayish-red softening, or coloration; and partial, superficial induration of the cortical substance, with increase of connective tissue and destruction of the nervous elements.

(3.) Atrophy of the whole brain, or especially of the convolutions, is very common; together with its further consequences, induration of the cerebral substance, dilatation of the ventricles, etc. The increase of cellular tissue and development of true connective tissue occurs frequently in the white substance, either generally diffused or limited to certain portions.

(4.) Pachymeningitic processes, meningeal apoplexy, degeneration of the cerebral arteries, are common.

(5.) The degeneration of the nerve substance, and in particular the increase of connective tissue with destruction of the nervous elements, may extend to the spinal cord (Rokitansky, Joffe, Mildner, Gulliver); an important circumstance in regard to the symptoms observed during life.

(6.) The anatomical changes in general paralysis are more evident, more characteristic, and more general than in any other form of insanity: still, they are not always identical, but constantly present certain varieties. This appears to depend upon the fact, that in some cases one and in other cases another element of the disease is the most prominent (it may be meningitis, or atrophy of the entire brain, or sclerosis of the cortical substance); and this may depend upon the more rapid or more acute course of the disease.

From what has been said, we arrive at the following general conclusions:—

(*a.*) Insanity, whether acute or chronic, may be the result of simple abnormal excitation or nutrition of the brain, without the existence of any palpable change.

(*b.*) In the majority of cases this is not the case; it depends upon palpable diseases which are generally distinct in proportion to the duration of the insanity. These consist partly in hyperæmia and inflammatory processes, which, as a rule, are first observed in the pia mater and cortical substance, penetrate to various depths of the cerebral substance, and, if not arrested, terminate in incurable destruction and atrophy of the cerebral substance—a lesion to which the group of symptoms of dementia corresponds.

(*c.*) Frequently, however, it is non-inflammatory changes in nutrition, recognized only in their final results—viz., marasmus of the brain—which correspond to the serious secondary forms. The initiatory periods and stages of development of these nutrient changes, which correspond to the primary forms, as yet are uninvestigated. To these processes we may give the name of *atrophic irritation of the brain.*

(*d.*) Our knowledge of symptoms is not yet so far advanced as to enable us to state with certainty whether, in a given case of insanity, anatomical changes exist, and where they are situated; but the facts which we observe enable us to speak with as much confidence as we can in any other diseases of the nervous system.

(*e.*) The most important circumstance in regard to anatomical diagnosis and to prognosis is the existence or non-existence of *severe motory disorders*, in particular of general progressive paralysis.

CHAPTER II.

THE PATHOLOGICAL ANATOMY OF OTHER ORGANS.

§ 193. In describing the pathological changes which take place in other organs, we shall restrict ourselves to those which are practically most important, or theoretically most interesting—in the first place, in so far as they are amongst the most frequent causes of death in the insane, and in general possess great clinical interest; and, in the second place, in so far as they occur with a certain degree of regularity in those cerebral diseases, or even have essentially a pathological connection with them. All these changes are of the utmost importance to the physician; and numerous fallacies have been introduced into the theory of insanity by the narrow views which have been held regarding them. Thus, if in an insane person disease of the spleen or cirrhosis of the liver was discovered, the conclusion was at once arrived at that diseases of this kind only were to be considered as physical conditions of insanity; examples were collected on all sides, and a theory of the psychical significance of the viscera was framed. Such theories, although every day refuted by observation, and at the present time generally abandoned, still occasionally give rise to misconceptions. It is now beyond doubt that the insane may die of any disease, whether acute or chronic, which affects other persons; and the following remarks may be considered as supplementary to what has already been said regarding etiology.

Of *general or blood diseases*, those most frequently met with in the insane, especially in females, are the *anæmic states* (see § 106). In spite of the most careful nourishment, profound anæmia with a waxy hue of the entire skin and a general puffed-up appearance is sometimes seen during the course of the cerebral affection which lies at the foundation of general paralysis. Thore (1849) found in these patients, even although suffering from pneumonia, a serous condition of the blood, the clots being without consistence. Many inmates of asylums for the insane, paralytics, dements, etc., die from anæmia and marasmus without any serious local affections, except, perhaps, a slight degree of atheroma of the arteries being discovered.

Typhus fever is rarely met with in the insane; nevertheless, it sometimes occurs in an epidemic form, as, for example, in the asylum at Schleswig (Gaye).[1] Sometimes the fever exercises a persistent beneficial influence upon the insanity (in Schleswig this was observed four times in forty-nine cases, two being of mania and two of melancholia).

Cholera makes more or less considerable ravages in asylums. It is sometimes very fatal amongst the old and infirm inhabitants of institutions devoted to chronic cases (for example, Salpêtrière). The remarkable immunity which several asylums enjoyed from epidemics of cholera (for example, Bethlehem in 1832, 1848, and 1849) does not at all depend upon the insane being less predisposed to its attack. The disease seldom exercises a beneficial influence upon the insanity; it more frequently exercises an unfavorable effect both on the bodily and mental condition (marasmus).

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[1] 'Ztschr. für Psychiatrie,' ix., 1852, p. 173.

Dysentery is very common; epidemics of it have been occasionally observed (for example, by Stoltz).[1] The mortality is generally considerable. In the epidemic just referred to, the disease had no appreciable effect upon the mental disturbance; even periodic attacks of mania were neither interrupted nor prevented.

Regarding *intermittent fever*, see p. 132.

Cancer appears to be rare amongst the insane. In the Vienna Asylum, only six cases were met with in 384 autopsies.

§ 194. Amongst the local affections frequently met with in insanity, we may mention, in the first place, that much-discussed affection of the external ear usually described under the name of hæmatoma of the ear (æthämatoma, also erysipelas of the external ear). The skin of the concha becomes swollen, smooth, and tense, and indistinct fluctuation may be felt; the entire ear becomes painful, hot, and red. If cut into, there is observed a cavity filled with half-clotted, half-fluid blood, which rapidly fills again after being emptied. Sometimes the cavity empties itself by spontaneous rupture. Upon closer examination, the tumor is seen to consist of an extravasation of blood under the perichondrium, which is thereby separated from the cartilage. In a few weeks, the redness and swelling usually abate; there remains more or less thickening of the affected part—according to some, owing to the formation of new layers of cartilage—which is afterwards followed by shrivelling and persistent deformity of the concha auris. The mode of origin of this disease is still the subject of discussion, and there already exists an abundant literature on the subject—more so, indeed, than the question is worth. While one class of observers consider it to be a process of spontaneous origin more or less connected with the changes within the cranium (for example, Hoffmann,[2] a hæmorrhagic inflammation of the cartilage, analogous to hæmorrhagic pachymeningitis; others, as connected with cerebral congestion), another class declares that it is solely caused by external circumstances,—by injuries, sometimes by knocking the head against the bedposts—at other times, and particularly, by the pulling and tugging which the ear undergoes by cruel and barbarous attendants. This view of a purely accidental and traumatic origin, which has been in recent times advocated especially by Gudden,[3] is the most probable. The affection is almost solely confined to male patients (by male attendants) and to asylums. It occurs more frequently in the left ear (suits the right hand of the attendant); it is rapid in its origin; the impression of the finger-nails is sometimes observed; and the affection can, by care on the part of the attendants, be made entirely to disappear in well-regulated asylums.

Ludwig states that he has often observed, by means of the ophthalmoscope, changes in the eyes of the insane, and that these diseases are sometimes permanent, sometimes transitory—coming and going with the paroxysms (the latter consisting of hyperæmia of the internal parts of the eye). These facts, though not sufficiently minute, are very interesting, and merit further investigation.

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[1] 'Psych. Corr.-Bl., 1857, No. 3.

[2] Günsb., 'Ztschr.,' vi., p. 250.

[3] 'Ztschr. f. Psych.,' xvii., 1860, 2.

§ 195. Amongst the other organic alterations met with in the insane, those of *the thoracic organs* are, on account of their great clinical importance and frequently fatal termination, the most important.

I. *Abnormalities of the organs of respiration.*—The most important of these are pneumonia, pulmonary gangrene, and phthisis. A large proportion of the insane die of pneumonia, especially those with weak and deteriorated constitutions, and, in particular, many general paralytics. Calmeil found pneumonia to be the cause of death in one-fifth; Aubanel and Thore, in one-seventh. In Sachsenberg, it was the cause of death in one-ninth, and in the Schleswig Asylum (Gaye),[1] in one-sixth of the fatal cases. As in hospitals for old men, so in asylums for the insane, there occur, especially in the winter months, many sudden deaths from this cause. These patients do not show during life the ordinary series of symptoms of pneumonia. Rigors are seldom observed; likewise cough, expectoration, and pain. Dyspnœa, on the contrary, is usually observed in a greater or less degree. The only symptom which renders our diagnosis certain is naturally the presence of the physical signs. In every case, therefore, where a patient shows symptoms of illness (loss of appetite, thirst, foul tongue, and increased frequency of pulse), the thoracic organs ought to be minutely examined. The course of pneumonia, especially in paralytics, is generally rapid, and therapeutic measures are quite as ineffectual as in the pneumonia of aged persons. In an anatomical point of view, these cases present nothing peculiar. *Lobular pneumonia* is very frequent, especially in cases where the patients presented during life the symptoms of great exhaustion; in paralytics, it may frequently originate through the accumulation of the bronchial secretion in the finer bronchial tubes, and through the impaction of foreign substances in the air-passages (food, etc).

Gangrene of the lungs, which has sometimes been observed suddenly to become frequent in prisons, has been well known and appreciated in the insane since the days of Guislain.[2] This author observed gangrene of the lungs to occur almost exclusively in patients who had refused their food and died of inanition: in such patients, however, it was very frequent (nine times in thirteen deaths of this description). In these patients, of whom several had lived for from twenty to sixty days on nothing but water, Guislain considered the impoverishment of the blood —a species of scorbutic state—to be the primary condition and special cause of the gangrene: a dark-red, brown-red, and, finally, cyanotic hue of the cheeks, was, in his estimation, an important symptom during life. It generally occurred in patients who had manifested symptoms of diminution of the general sensibility—indifference to cold, heat, and pain; who could stare for a long time at the sun, etc. Neither pain, cough, dyspnœa, nor fever existed; the pulse was generally slower than usual—other observers (Thore) found it accelerated—and the temperature of the skin was very low. In persons not insane, gangrene of the lungs is ordinarily accompanied by violent symptoms. The gangrene is sometimes limited, sometimes diffuse. In seven out of nine of Guislain's cases, it was the left lung which was affected: in none of the cases was there gastritis present, which certain authors say always exists in certain individuals who refuse their food.

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[1] 'Ztschr. f. Psych.,' x., 1853, p. 569.

[2] "Mémoire sur la Gangrène des Poumons chez les Aliénés," 'Gaz. Médic.,' 1836, and in the 'Phrénopathies.'

Since the publication of Guislain's work, gangrene of the lungs has been studied in the insane by Ferrus, Calmeil, Webster, Thore, etc.; from the German asylums there have recently issued many valuable works (especially that of Fischel)[1] and useful individual facts. In the Prague Asylum, in six years, twenty-five cases (in 7.4 per cent of the deaths, in only 1.6 per cent of the other autopsies, in the Pathological Institute) were observed: of these, twelve were melancholics; the others suffered from dementia, epilepsy, mania. Refusal of food and bad nutriment were the principal causes; on one occasion it occurred in a patient who had a tendency to eat his fæces. In the Vienna Asylum, in three years (1853 to 1855), gangrene of the lungs was discovered fifteen times in 602 autopsies, and of these five were consecutive to refusal of food.

The observations which have hitherto been made incontestably prove that the disease is not confined to those cases in which food is refused in melancholia, although in these it is especially frequent. That in these cases the abstinence and the inanition are actually the cause of the malady is shown by the fact that it also occurs in cases of stricture of the œsophagus, and that in persons also who are profoundly weakened by inanition, gangrene is observed in other parts—in the cheeks, the genital organs, etc.; all the circumstances render Meyer's theory,[2] that gangrene of the lungs arises directly from the penetration of particles of food into the air-passages during the forced alimentation of individuals who refuse their food, less probable. In certain cases, also, gangrene of the lungs is evidently the result of general septic infection, originating, for example, from a bedsore.

In states of inanition, the symptoms (according to Fischel) are generally the following:—After a period during which the patient has become rapidly emaciated, fever, cough, and accelerated respiration set in; the patient presents the symptoms of catarrh, with pain and oppression in breathing, great muscular weakness, coldness of the extremities, pallor of the skin, and deep-red or cyanotic hue of the cheeks. Soon the breath and the sputa assume a gangrenous odor; the physical signs are those of pneumonic solidification, pleuritic exudation, of a cavity—sometimes of pneumo-thorax and hæmoptysis: extreme emaciation and weakness, diarrhœa, etc., set in, and death from anæmia, pyæmia, pneumo-thorax, or profuse hemorrhage ensues, in from ten days to three weeks. In profound melancholia and dementia, the symptoms are sometimes very insignificant.

EXAMPLE L.—*Melancholia after mental impressions; refusal of food; death; gangrene of the lungs.*—During our last political agitation, a lady, æt. 54, of sensitive disposition, and who had hitherto led a very quiet life, was violently affected by the sight of several armed men fighting under her window. The violent shock was rapidly followed by a state of mental confusion, and several days passed before it was noticed that she took no food. Three, five, nine days were passed in exhortation by her family; a thousand questions were asked, all sorts of food were offered to her, but nothing could overcome her aversion to eat. A physician was called, and applied fifteen leeches to the epigastrium. The great falling off in her appearance, the emaciation, the melancholia, which constantly became more profound, awakened the anxiety of her family, and she was admitted into our asylum on the 4th February, 1831. I recognized her refusal of food in the color of her countenance: on putting some questions, I learned that Madame B— had, for the last four weeks, taken nothing but a few basins of milk-soup and some weak beef-tea. The face was of a dark-red color; cheeks, point of the nose, and lobes of the ears were brown; the pupils were dilated, and the white of the eyes was glistening and of a blue shade; the hair, which, according to the testimony of her relatives, was usually smooth, had been for some days extremely dry, and had assumed a hue which could also be recognized in the iris.

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[1] Prager 'Vierteljahrschrift,' Bd. xiii., 1847, p. 1.

[2] 'Charité-Annalen,' v., 3, p. 154.

It was only with great trouble that she could be persuaded to take a few spoonfuls of beef-tea; the patient, who was very strong, struggled violently with the attendants, so that the melancholia actually passed into mania. The emaciation made fearful progress; the countenance became brown, the lips somewhat livid; and soon the hands and feet, especially at the phalanges, became perfectly cyanotic. The patient always strenuously resisted being fed; she became motionless, and soon an ecstatic condition was added to the symptoms of melancholia. It was with difficulty that she could from time to time be forced to take a cup of milk or soup; and in order to overcome her resistance, we had recourse to the swing chair, but without success.

Her breath had an insupportable odor; the sputa were brown, streaked with bright red; in a few days the expectoration became copious, not actually purulent, but sanious. The countenance had so fallen, that the patient seemed to be of great age. She gradually became weaker; occasionally she took a little food, and during the last few days took anything that was offered her.

On examination of the body, the brain and its membranes appeared normal. The contents of the abdomen presented no trace of inflammation, the stomach was not injected nor at all drawn together. The gall-bladder was full of very black bile, and the spleen and mesenteric vessels contained blood so very dark in color as to confirm me in what has been said regarding this condition by the celebrated Haller.

As I, after opening the thorax, was lifting up the left lung, my finger penetrated its substance; and such an insupportable odor arose from the rent, that I was obliged to stop my investigation for a little. The posterior aspect of the superior lobe of the extracted lung was of a black color, interspersed with green and brown spots. An incision made into this part showed that the tissue was very easily torn. A bloody, black, stinking liquid, like the fluid in a gangreous limb, permeated the pulmonary tissue; here and there a few purulent particles were seen. On scraping with the scapel, the blade became covered with a brown, viscous, putrid mass; bright-red stripes penetrated the tissue in all directions; internally, the decomposition extended similarly into the lung. The entire gangrenous portion was about the size of a flattened ball, five inches in diameter. The bronchi were filled with a red, frothy, fœtid fluid; the right lung was healthy. (Guislain, "Mémoire sur la Gangrène des Poumons ches les Aliénés," 'Gazette Médicale,' 1836, p. 341.)

The frequency of phthsis pulmonalis in the insane has been acknowledged by observers from the days of Lorry to the present time. We have, however, no definite statistical proof that this disease is actually more frequent amongst the insane in asylums than among persons living under similar conditions (in institutions, etc.).

Esquirol considered that more than a third of his melancholics were phthisical; Calmeil found tuberculosis in $\frac{2}{5}$ths, Webster in $\frac{1}{4}$th, Sc. Pinel in $\frac{1}{6}$th of their autopsies; in Vienna it was met with in more than $\frac{1}{3}$d (in a total of 602 autopsies made in the three years 1853 to 1855); in Prague, in 1842 and 1843, in more than $\frac{2}{5}$ths (Fischel); in Eberbach, in $\frac{1}{5}$th; in the asylum for chronic cases at Colditz, in $\frac{5}{11}$ths (Voppel); in Palermo, in thirteen years, in 192 cases of death, in almost $\frac{1}{4}$ (Pignocco); in Hanwell, in four years, amongst the female patients, in not quite $\frac{1}{5}$th; in Bethlehem, in six years, 1842–1848, in $\frac{1}{6}$th; in certain asylums—for example, in Bicêtre—its rarity is remarkable (Thore, l. c.). The general statistics made by Hagen[1] for a great many asylums show that in asylums generally a little more than one-fourth of the deaths are due to phthisis, and that this proportion is almost the same as for the general population above fourteen years of age. This may be true in regard to large towns, and in particular to Vienna and Prague; but for the rural population this estimate is for most localities far too high, so that we must still assume that phthisis is more frequent amongst those who inhabit large institutions (not asylums merely) than amongst the general population. It is not merely on account of its mortality that phthisis is important in insanity; it is certainly also of great pathogenetic value, owing to which it may stand in various relations to the insanity.

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[1] 'Ztschr. f. Psychiatrie,' vii., 1850, p. 257.

Tuberculosis is developed principally in the primary forms, and its course sometimes presents many deviations from the ordinary symptoms; in particular, there is occasionally observed a striking interchange in the intensity of the symptoms of the pulmonary and of the cerebral affection, so that apparent improvement of the one always coincides with aggravation of the other. Still, this interchange is not only very inconstant, but it is also merely apparent; the subjective symptoms of the pulmonary affection disappear in profound mental disorder, while the objective, physical signs show that the process continues its ravages. Frequent examination of the patient is therefore necessary.

The statement that the delirium of the phthisical insane has a certain specific character is equally incorrect (see § 106).

All the various diseases of the respiratory organs are met with in insanity. After long-continued violent screaming and excitement, acute catarrh of the larynx and œdema of the glottis may ensue. Pleurisy has been observed by Sc. Pinel 7 times in 135, by Thore 8 times in 76, in the Vienna Asylum 89 times in 431 autopsies; pulmonary apoplexy was observed by Jessen[1] on 6 occasions, etc. Hypostatic hyperæmia of the lungs is also frequent in those who have lain for a long time in the same position, etc. These various affections present nothing peculiar in the insane; they are worthy of mention principally on account of the attention which their diagnosis demands during life.

II. *Affections of the heart.* Nasse,[2] from statistics gathered from the older works on the subject, concluded that heart-diseases were frequent and of great importance in the insane. Subsequent observers differ much in their opinions regarding their frequency (Esquirol met with affections of the heart in only one-fifteenth of his melancholics, Webster in one-eighth, Bayle in one-sixth, Calmeil and Thore[3] in almost one-third). The newest and most reliable statistics show only a very average frequency. In the Vienna Asylum, in 602 autopsies, affections of the heart were met with in about one-eighth;[4] still, a large proportion of these belong to the class which is of more importance in regard to the completeness of the report than in a clinical sense. Bazin[5] (in Bordeaux) found only three cases of organic heart-disease in 343 post-mortem examinations of insane women. According to these figures, we may assume that the ordinary affections of the heart are rather rare than frequent in the insane. Dilatation and incrustation of the aorta occur more frequently (for example, in about one-sixth of the 602 cases examined in the Vienna Asylum), which is naturally, in many cases, connected with other affections of the heart and with sclerosis of the cerebral arteries.

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[1] Jacobi and Nasse, 'Ztschr.,' i., p. 677.

[2] 'Zeitschr. f. Psych. Aerzte,' 1818, i., 1.

[3] See the writings of Esquirol and the forementioned work of Thore.

[4] 'Vienna Report,' p. 204. Certain recent alterations originating shortly before death are not included: I also thought it necessary to exclude fourteen cases of mere thickening of the valves. Amongst the cases of insufficiency, there are many very slight changes in the aortic valves, and many cases of simple hypertrophy.

[5] 'Ann. Méd. Psych.,' vi., 1854, p. 659. For the frequency of heart-disease in the reports of Voppel, see the above, p. 200.

§ 196. *Abnormalities in the abdominal organs.*—Amongst the acute organic diseases to which the insane succumb, acute intestinal catarrh occupies a prominent position. It appears in the ordinary manner, as injection with secretion of mucus, etc., or with follicular ulceration, or as an exudative process with relaxation, maceration, and extensive softening of the mucous membrane, which may be stripped off in the form of a pulpy bloody substance (especially in the ileum). These catarrhs are the fundamental cause of the colliquative diarrhœas whose appearance in exhausted and weak individuals is very properly considered as ominous; the maceration in the ileum may exist without diarrhœa. Many general paralytics, and not a few melancholics and maniacs, are carried off by these diseases. Their causes are obscure; in many asylums the immoderate use of purgatives may contribute to their frequency. Their diagnosis is difficult; loss of appetite, meteorism, rapid failing of the strength, and diarrhœa are always the most constant symptoms. The frequency of their occurrence renders careful examination of the stools necessary in all cases of suspicion.

The older observers attached much importance to a *narrowing of the large intestine,* which they considered to be very frequent: these cases, however, presented nothing morbid, but merely a drawing together of the large intestine—a condition frequently met with in every pathological theatre. Occasionally there may be a certain degree of contraction of the intestine in consequence of prolonged catarrh.

Displacement of the colon, which Esquirol, and afterwards Bergmann and others, considered to be an important and frequent anomaly, is likewise altogether immaterial. Most frequently it is caused by the transverse colon in its middle portion or in its left half descending into the hypogastric region, behind the symphysis, or even into the pelvis, and then rising perpendicularly towards the spleen.

There are several other disorders of the abdominal organs which may be mentioned, such as hypertrophy of the ganglionic nerves, which has been observed in certain cases; Rokitansky (ii., p. 871) observed "considerable increase in volume of the central abdominal ganglia in a case of eminent hypochondriasis, together with general tabes;" anomalies of the intestines; prolapsus of the rectum, which Bergmann has often seen in dements affected with constipation; cancer of the stomach (rare—Esquirol observed a case of it in a woman who believed that she had a beast in her stomach); old peritoneal adhesions, folds and adhesions of the bowel, in which cases the flatulence and other obscure painful sensations may give rise to peculiar delirious ideas (a patient of Esquirol's declared that Pontius Pilate, all the persons mentioned in the Bible, and a council of popes, were in his belly; another, that there were several devils there); foreign bodies in the intestinal canal, such as cherry-stones, which in some cases are swallowed in large quantities—an entire spoon that has been swallowed, etc.; organic diseases of the liver; intestinal entozoa (sometimes these are found in unusual localities);[1] diseases of the mesenteric glands (Bonet found in an insane man who believed that he had three frogs in his belly, three "scirrhous" glands in the exact spot where the sensation was felt). Bright's disease is exceedingly rare amongst the insane as a primary affection, but the slighter forms which accompany the various marasmatic states are naturally common.[1] Finally, the diseases of the male and female genital organs (prolapsus, hypertrophies, malignant polypoid degenerations, etc.) may be mentioned as important anomalies. The latter (fibroid tumors of the uterus, infarctus, ovarian cysts, etc.) rarely give to the delirium the character of sexual excitement; they rather occasion a hysterical disposition which may be important in regard to the origin of the entire mental disturbance. The older as well as the more recent psychological literature abounds in cases of this description,[2] although they are not always related with the necessary minuteness and pathological accuracy: besides their theoretical interest, they, above all, show the necessity of a minute examination of all the organs accessible to our means of diagnosis.

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[1] Hayner (Nasse, 'Zeitschr. f. Psych. Aerzte, 1818, Heft 4) narrates the case of a patient who believed that he was going to die of starvation, and constantly complained of something living in his stomach, and which rose to his throat. After death, seven lumbrical worms were found in the gall-ducts of the liver, one sticking half in the ductus choledochus and half in the duodenum, and from thirty to thirty-six in the duodenum itself. In another case of sudden mania, a lumbrical worm was found in the ductus choledochus, and several others in the duodenum.

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[1] Fischel, in Prague, had only 3 cases of Bright's disease amongst 2,400 patients; the Vienna Report gives 23 cases to 602 autopsies, of which, however, several were of phthisical persons.

[2] See, for example, the work of Burzorini, 'On the Physical Conditions of Insanity,' Ulm, 1824.

BOOK FIFTH.

THE PROGNOSIS AND TREATMENT OF MENTAL DISEASE.

CHAPTER I.

PROGNOSIS.

§ 197. THE prognosis in mental disease involves two separate questions. In the first place, *Does the existing disease endanger life?* and in the second place, *If life be continued, whether, and to what extent, may recovery from the mental derangement be hoped for?*

The reply to the first of these questions often depends more upon the presence of serious disease in other parts, as tuberculosis, heart-disease, etc. (which are to be estimated according to established principles) than upon the presence of the cerebral affection. Amongst the purely cerebral affections, the most rapidly fatal are those serious degenerations of the brain with the symptoms of general paralysis (see above), because they, as a rule, prove fatal in from one to three years, and very often in even a much shorter period. Of unfavorable prognosis are likewise extensive and intense hyperæmias of the brain, which occasionally, at a certain stage, lay the foundation of mania, but more frequently come on paroxysmally during the course of that disease; they may rapidly advance to acute softening of the cortical substance, or may prove almost immediately fatal by causing serous effusions, extravasations of blood, etc. Œdema of the brain, especially if it comes on acutely, might be a cause of death, and the refusal of food seen in certain forms of melancholia, if long continued, become one of the events dangerous to life. As a rule, there is a much greater tendency to death within the earlier periods, during the acute stages of melancholia and mania, than in those conditions of chronic irritation or more gradual, but incurable, changes of structure in the brain which give rise to chronic forms, to monomania, to melancholia with the character of mental weakness, or to imbecility. These thoroughly chronic forms allow of not only a long duration of life, but very frequently there is noticed at an early stage of the disease a remarkable improvement in the state of health of the patients, who gain flesh and weight. Every asylum contains amongst its old inmates many such examples.

A comparison of the death-rate in asylums for the insane, to be of any value, requires a minute inquiry into the various causes of their difference.

The mortality is always greater in those establishments destined specially for recent cases than in asylums proper; for the majority of deaths amongst the insane occur within the first twelve to eighteen months of the malady. This is explained by the fact that the recent and acute cerebral affection may be merely a complication of serious physical disease, and by the frequent occurrence of mania or of general paralysis in the early stages. The comparative frequency of this latter complication tends more than any other circumstance to modify the statistics in different countries and in various institutions. It is this also which causes in general a greater (earlier) mortality amongst males than females. In Bethlehem, where no case of more than a year's standing and no epileptic or paralytic is admitted, and where no case is detained longer than a year, the mortality was 6–9 per cent; St. Yon, a general asylum, over 7 per cent; Winnenthal, almost solely devoted to curable cases, in the twenty years from 1834 to 1854, 11–12 per cent; Siegburg, in the four years from 1846 to 1850, 10–11 per cent; Sachsenburg, in the ten years from 1840 to 1849, 16–17 per cent; Hanwell, 12 per cent; Lenbus (for curable cases), in twenty-four years, 16 per cent (Mortini); the English poorhouses, 27 per cent; the Antiquaille, in Lyons, 30 per cent. It would be not only irksome, but impracticable, to consider here the various circumstances which cause the remarkable differences presented by these superficial quotations. Hitchman (1850) came to the conclusion (from the statistics of Hanwell) that the normal ratio of mortality is tripled in mental disease.

§ 198. The decision on the second question in our prognosis, viz., *the curability of the insanity when life is not endangered*, is to be determined by the consideration of a great number of special circumstances, and requires a much more intimate knowledge of mental disease. Here, also, the statistics of the various institutions for the insane afford us much valuable information, inasmuch as they exhibit a series of the results of experience, and agreeing with each other in their various particulars (for example, the incurability of secondary dementia, the influence of the duration of the disease upon the prognosis, etc.). It must, however, be borne in mind that many statistics regarding curability are not to be implicitly trusted; the word *cured* not being universally employed in precisely the same sense, and no statistics can bring to view all the complicated circumstances which in concrete cases determine the decision as to the curability of the malady.

A primary consideration, and indeed the most important as regards the question of curability, is the *form of the insanity and the period of the disease.* Thus we consider as quite incurable every form of secondary dementia (with which, however, we must not confound melancholia with stupor, nor the temporary profound suspension of the faculties frequently observed after mania). Chronic mania is scarcely more susceptible of radical cure; occasionally, however, it admits of considerable improvement, because the falseness or errors of judgment may extend over a large circle of ideas, or may, on the contrary, be confined to a few hallucinations. In the last case, also, the fixity of the ideas depends upon total perversion of the psychical individuality, which renders it impossible for the patient to throw off the idea that continually follows him, to distinguish his former *self* 'mid the confusion of his whole manner of contemplation; in a word, to become himself again. Any real improvement, therefore (which can only be shown in the concealing of his delusions, in his becoming accustomed to orderly habits and deportment, and to a, at all events, mechanical sense of duty), can only be obtained after long-continued, and in many cases most energetic treatment. Even then, however, the result is very uncertain.

Amongst the primary forms of melancholia and mania, my observations (which correspond exactly with those of Flemming) go to prove that it is the former in its really primary stage which is the more easy of cure. If, on the other hand, many other medical psychologists (Jessen, Ideler, Falret, Ferrus, Haslam, Rush, etc.) declare that mania, especially *manie agitée*, is, generally speaking, the most curable form of insanity, it may be that they come to that conclusion from the results of practice in asylums, into which simple cases of melancholy seldom find their way, but more frequently difficult cases and those of long standing, and which therefore, of course, come after mania in the order of curability. For, very naturally, in even the slighter cases of mania, the aid of the asylum is sought, owing to the condition of exaltation; while many cases of moderate melancholia are, when taken in time, successfully treated at home. As for chronic and protracted cases of melancholia and mania, however, it is difficult to distinguish any difference in the prognosis; indeed, more frequently a rapid interchange of both takes place, forming a continual vacillation between exaltation and depression.

Amongst the primary forms, a short stage of melancholia is more favorable than a long one; a state of vague, objectless emotion, be it sad or cheerful, and vague general delirium, is always more favorable than the appearance and continuance of fixed ideas. It is on this account that *monomanie exaltée* is far less susceptible of cure than *manie agitée*. In melancholia, too, the appearance of hallucinations is decidedly unfavorable; those especially which refer the malady to external agencies (to other persons, to witchcraft, etc.) are remarkably persistent, and introduce at a later period a condition of dementia; when, on the other hand, the patient attributes the cause of his condition to something within himself (for example, to imaginary vomiting), he is much sooner disposed to quit his delusions (Zeller).

In thus forming a prognosis upon the form of the disease, the most important consideration is always the determining whether the mental disease is still active and in progress, or whether it is only the remains of an exhausted and extinct pathological process. Seeing that mania represents the acme of all stages and of all forms, it may be given as a practical rule, that if a period of mania be succeeded by a complete and prolonged calm, but without really favorable indications, the patient is in the greatest danger of incurability. The prognosis, moreover, is especially difficult at that stage when the primary forms degenerate into chronic mania and mental weakness, which degeneration often takes place after years of alternating amelioration and relapse. On the one hand, the cessation of all disturbances of the physical state, especially with increasing *embonpoint*, and on the other, all permanent anomalies of motion and of sensation (convulsions, changes in the state of the pupils; loss of smell, of taste; eating of fæces, fixing the eyes upon the sun, obstinate wandering muscular pains, etc.) are to be viewed as decidedly unfavorable symptoms, and such signs as the following: the absence of a return to normal tastes, to healthy inclination for employment—the constant leaning towards unbounded whimsical exaggeration, unaccompanied by exaltation of the sentiments—increased incoherence of ideas, stupidity of countenance, etc., indicate, from the psychical side, continuance or further progress of the disease.

§ 199. The duration of the disease is, as all experience has shown, of greater importance as regards the prognosis in this than in any other malady. In reference to this point, various statistics may present slightly different results, but the principle admits of no exception. Thus, in Winnenthal, the number discharged recovered, of those admitted within the first six months of the disease, amounted to 68 per cent; after two years' illness, 18 per cent; and, after a duration of four and a half years, only 11 per cent: in the Retreat, of admissions within the first three months, 80 per cent; from three to twelve months, 46 per cent. Jessen's recoveries in recent cases (*i. e.*, those of not more than a year's standing before admission) amounted to 66 per cent; in cases of longer standing, 12 per cent: in Leubus, of admissions within the first half year, 64.16 per cent; within the first year, 34.26 per cent; after a year's illness, 20 per cent. In cases which come under proper treatment within the earlier months of the disease, the proportion of recoveries may be estimated at 70 per cent (Ellinger); and Esquirol estimates that after three years' duration of the disease only one in thirty of the cases recover. The hope, therefore, of complete recovery becomes dim, if no appreciable step towards improvement takes place within a year. Examples, however, are not unfrequent of recoveries after six, ten, or even twenty years' illness, as may be occasionally observed in institutions devoted especially to chronic cases. This occurs more frequently amongst females, in whom a favorable influence is sometimes exerted at the climacteric period.

Regarding the prognostic signs to be drawn from the course of the disease and the manner in which the symptoms are grouped, periodic attacks, with the lucid intervals longer in duration than the paroxysms, are decidedly unfavorable. It generally happens, that with patients who fall into insanity, and at the earlier period of the disease have an attack once a year, or once in three years, or even once in seven years, the attacks, as time advances, become longer and more serious, the lucid intervals shorter, and with each new attack the prognosis becomes more unfavorable. In continued cases, a gradual slow development of the disease generally (but not always) denotes that it will be slow in its course and difficult of cure; while a sudden commencement is, as a rule, more favorable. On the other hand, however, recoveries which take place gradually and slowly are generally more permanent than the rapid cures, which are seldom lasting, especially if the malady has been of long standing. Irregular alternations and violent displays are always more favorable than a prolonged continuance of the same symptoms: for instance, a constant state of maniacal excitement, a permanent and, at the same time, moderate *gaieté*, constant voraciousness, prolonged refusal of food, etc. Nymphomania, with its various modifications, is, in young persons, of rather favorable prognosis; but when it appears later in life, at the climacteric period, it rarely admits of cure. The various conditions arising from sexual super-excitation in men of advanced years are equally grave in a prognostic point of view; they generally proceed to dementia. The return of a period of depression in mania (as, for example, much weeping) is a favorable symptom, inasmuch as a period of melancholy frequently precedes recovery, or, at least, sadnes of humor is followed by a lucid interval: so, also, in every case the return of proper sentiments, of former desires and favorable pursuits (work, music, etc.), of memory, of desire to see relatives, etc., are to be regarded in a favorable light. Numerous hallucinations coexistent with a state of calm are unfavorable. A perfect state of physical health (regarding which we can only speak after a minute and thorough examination of all the organs) in long-standing mental derangement is, and very properly too, regarded as an inauspicious circumstance. On the other hand, the return of former bodily ailments, which had disappeared during the disease (as toothache, headache, œdema, hæmorrhage, etc.), is occasionally, though by no means frequently, observed to coexist with decided improvement in the mental state—sometimes, indeed, with rapid recovery. All remissions, and all intermissions and lucid intervals, becoming gradually longer in duration, are naturally favorable. But the best prognostic sign of all, is a knowledge on the part of the patient of the internal trouble—the feeling of illness, and a reaction of the former self against the state now recognized as a morbid one: nevertheless, as Jacobi justly observes, "the power may fail to carry through this reaction, and the temporary glimmer of self-consciousness be again extinguished."

§ 200. The causes, exciting or predisposing, of the mental disease have also a prognostic value. It cannot be disputed that insanity at an early age is more frequently cured than when it occurs in advanced years. Still, cases of recent insanity occurring in individuals of fifty or sixty years of age frequently turn out favorably, and senile imbecility is the only malady which presents absolutely no hope of recovery. The generally admitted fact, that insanity is more easy of cure when it occurs in women, is doubtless chiefly owing to the less frequent occurrence in them of general paralysis. Jessen (and his observations have been confirmed by several others) obtained better results, especially in cases of long standing, amongst females. It would therefore appear that in the opposite sex a state of incurability sets in, on an average, at an earlier date. With regard to cases of hereditary insanity, there is a preconceived and all but universal opinion that the prognosis is absolutely hopeless; hence the frequent neglect of the necessary therapeutic measures. But the numbers of such cases that have been successfully treated are sufficient to establish the fact that hereditary taint does not constitute a case incurable; still the chances of recovery are but slight, and even when it has taken place there is great danger of relapse. As to whether patients from the upper ranks of society, of good education (as has been asserted), present greater chances of cure than those from the lower classes—whether recoveries are of rare occurrence amongst Jews, etc.—are subjects upon which I must confess my inability to give a definite opinion. The natural disposition, acquired peculiarities of character, the degree of strength of mind, the ease or difficulty with which the patient yields to the malady or to the curative influences, are points of the greatest value in prognosis. Diseases which have been gradual in their development, occurring in persons who have been remarkable from youth upwards for their excessive capriciousness, their originality of taste and eccentricity of character, are serious in every point of view. Equally unfavorable are cases originating after long and painful emotions, years of vexation, prolonged suspense between hope and doubt ended by disappointment, after intense passion causing mental devastation. These deep wounds do not heal without loss of cerebral substance; they are often followed by complete derangement of the mental constitution, and in such cases the chances of recovery are far less than in those resulting from a sudden mental shock—a fright, etc.

The primary idiopathic affections of the brain are, generally speaking, much more serious than the secondary and sympathetic. Mental diseases following upon injury to the head, acute meningitis, sanguineous apoplexy, and long-standing epilepsy, especially the two latter, are almost absolutely incurable (still there are exceptions); and the same may be said of those which have made their appearance after typhus fever and become chronic. On the other hand, anæmia, acute congestion of the brain, indigestion, menstrual and many other derangements of the sexual organs, are amongst the physical states which contribute to the development of mental diseases of more favorable prognosis. In insanity resulting from inveterate drunkenness, the prognosis is most unfavorable; it early assumes the character of mental weakness. Where it originates from more moderate intemperance, the case may be considered curable, but there is an extraordinay tendency to relapse. Onanists, and those exhausted by sexual excesses, are not to be considered incurable so long as the cause can be removed, the general health improved, and any existing local disease successfully treated. Recovery, on the other hand, is impossible where monomania has set in, and particularly where the patient has hallucinations referring to personal intimacy of the most debased kind with the supernatural, together with a tendency to masturbation. Hysterical insanity, acute in its outbreak and with violent agitation, is of better prognosis than when it is passive, characterized by depression, and slow in its course. Of all the forms of insanity, puerperal mania is that in which the prognosis is most favorable. In asylum practice this form stands high in the ratio of curability, although the majority of such cases do not enter these institutions, but are successfully treated at home.

The external circumstances and relations of life of the patient greatly influence the prognosis. Where effective treatment is limited by poverty or other untoward circumstance, where the obstinacy or prejudice of relatives prevents timely interference, or where removal from those scenes of life is rendered impossible in the midst of which the mental malady arose, and from whence it constantly derives new vigor, no false illusions need be built regarding the possibility of cure; nothing can here be expected from nature, whose efforts are thus rendered ineffectual.

§ 201. A consideration of the chances of recovery in insanity affords, upon the whole, very gratifying results. From the statistics of institutions for the insane, it appears that recent mental disease allows of a far better prognosis than most other chronic affections of the brain. If we understand, however, the word "*recovered*" to signify, as it ought, the total disappearance of the mental disease—the complete return of the former capacity of intellect, of the whole earlier force of character, it must, of course, be but seldom that such a result can be expected. Cases are by far more numerous where, indeed, the leading symptoms of the insanity disappear, but the individual retains a slight feebleness of intellect, continues irritable in temper, has occasional tics, or is possessed of certain eccentricities, which, however, permit him to take part in the simple avocations of life, and, it may be, to return to his former pursuits. Hence a distinction ought to be made in successfully treated cases between *recovered* and *improved*, as has long been the practice in many well-regulated institutions, such as Winnenthal.

It is evident that by such *improvement* is to be understood, not only a state of outward calm, but an essential alteration comprehending the complete arrest of the further progress of the disease. It would, for example, be wholly inadmissible to declare that a maniac whose disease had gradually verged into dementia, and who was now, as a consequence, quiet and inoffensive, and could even be kept in private circumstances, was on that account improved. Such a case has, on the contrary, become in reality aggravated, and can only be dismissed from the asylum as no longer curable.

It may be here permitted to give a few quotations from the statistics of the asylums of Germany. Winnenthal had in twenty years (1834–54) 1424 admissions (888 M., 536 F.), whereof there were 445 recoveries

(260 M., 185 F.)—equal to 31 per cent. Siegburg, from 1st October, 1846, to 31st December, 1850, 872 patients, 277 recoveries—equal to 31 per cent. Sachsenburg, in ten years (1840–49), 695 admissions, with 213 recoveries—equal to 30–31 per cent. From Sonnenstein, during the five years 1846–51, there were dismissed recovered 33 per cent of those admitted. These results correspond in a remarkable manner with one another; and when Fleming says ('Ztschr. f. Psych.,' xv., 1858, p. 8)—"It is, at the present time, satisfactorily demonstrated that with respect to mental diseases no statistics exist whereon conclusions may be founded regarding the curability of these diseases, or the efficacy of the remedial means employed,"—I quite agree with him in the latter point, but I cannot at all indorse his statement regarding the *curability* of insanity.

§ 202. The mere disappearance of the more striking symptoms, the cessation of the fury and the delirium, cannot be regarded as certain signs of complete return of mental health. The patient may become quiet to all appearance, and learn to conceal many false notions which are nevertheless inwardly cherished by him; and this may even coincide with a striking improvement in the state of general health. The most important symptoms of really returning sanity are rather the distinct appreciation of the mental disease by the patient, the discernment of the abnormality of the former state, the parting with all its accompanying delusions, and the impartial estimation of the present position from every point of view. With these must be associated, a return to former tastes and to normal habits, of the instinct for vital activity, of interest in the former affairs of life, of that affection towards family and friends so often changed to hatred during the disease. Just as the insanity commenced with perverted dispositions and emotional states, so it is this phase of psychical life that is specially to be looked to in its disappearance. When at length the intelligence appears unimpaired, but where abnormal aversions still exist toward certain individuals, or a vague state of sullen anger and passion, or perhaps merely a state of psychical exaltation, is retained, which renders the patient very irritable; so long as the patient cannot bear any reference to his former malady, and solicitously shuns everything that may recall it—where, in a word, anything strange is still observable in his feelings, demeanor, speech, physiognomy
a or glance—we cannot say that full recovery has taken place. The foundation of recovery is rather a perfect quietness of mind; the individual who is radically cured speaks freely of his malady to those around, and especially to the physician, as of something which has now become quite foreign to him. He expresses almost always thankfulness and confidence, but never boisterous joy, at his recovery, and leaves the date of his dismissal from the asylum, without trying to hasten it, entirely to the discretion of the physician.

Those recoveries which take place gradually, with steadily progressing consciousness of the internal malady, are, generally speaking, more lasting than rapid and sudden improvements, even though they may appear quite as complete. On the one hand, there may exist from the psychical aspect the most favorable signs of complete recovery; while, on the other hand, physical diseases (such as tuberculosis, diseases of the genital organs, etc.), which had evidently exerted an influence upon the development of the mental disease, remain unhealed. In such cases, the verdict of full recovery from the insanity need not be delayed till the restoration of bodily health; but, at the same time, the great danger of new and repeated mental disease must be kept in view. In all these cases, a certain duration of the psychical feeling of wellbeing is required to distinguish permanent recovery from mere lucid interval—just as we would not pronounce a case of epilepsy to be *cured* after months even of freedom from the attacks, but first wait for a longer period the full confirmation of our favorable opinion.

Some observers (Esquirol) were disposed to consider only those cases of recovery as sufficiently certain which were accompanied by a well-marked *crisis;* others (Jessen, C. G. Neumann, and ourselves) have, upon the whole, very seldom observed such crises. We do not deny that those constitutional changes which must frequently accompany recovery from such a serious disease may occasionally be announced by increased quantity or altered quality of the excretions, by the appearance of skin eruptions, etc., and that, to a certain extent, a favorable interpretation is due to those events when they occur coincidently with mental improvement. These phenomena appear, however, more frequently as results than as causes of the recovery; very often they are wholly accidental occurrences, and the fact of their frequent complete absence would of itself sufficiently refute the opinion of Esquirol.

§ 203. The proportion of the permanent recoveries must be estimated by the number of relapses. Jacobi estimates that, of 100 recoveries, about 25 are readmitted. Parchappe gives 164 relapses in 498 recoveries. Farr, for the English county asylums, gives 1200 relapses in 5486 recoveries (more than one-fourth). Julius, for the York Retreat, makes the official statement of 31 relapses to 100 recoveries; he, however, considers the actual proportion to be much higher. Damerow had in Halle 14 per cent. Guislain estimates 19 per cent as the proportion in asylum practice: this number is also given for the asylums of Holland (Schröder van der Kolk). But all the cases of relapse do not again enter the asylum to be treated; we must, therefore, accept a higher number, from 20 to 25 per cent, as the proportion of the once recovered who again become insane.

Relapses occur by far most frequently during the first and second years after recovery. This is easily accounted for by the state of exalted psychical irritability, which often continues for some time after the disappearance of the disease, and the greater susceptibility to physical ailments which must exist after so serious a malady. Too early dismissal from the asylum is likewise a frequent cause. To the first of these causes is also probably due the fact that relapses are somewhat more frequent in the female sex (Schröder van der Kolk and Parchappe). It should be remembered, too, how rare complete and lasting recoveries are in most chronic diseases, and how difficult it is to remove certain constitutional causes which may frequently have existed from earliest infancy, whose constant action has, as a consequence, a succession of diseases following the same pathological direction. It is not to the powerlessness of our art, nor to a certain predestinated incurability of these forms of disease, that we ascribe relapses in those who, on their dismissal from the asylum, return to the most deplorable conditions of life, or to the full influence of those health-destroying causes which were to blame for their first attack. In the case of individuals who, on recovery, return to habits of drunkenness, to misery, to over-fatiguing employments, to the causes of violent agitations and emotions, we can almost with certainty predict a relapse; the drunkard, especially, is each time dismissed from the asylum only with the unsatisfactory prospect of soon seeing him again. Upon the whole, however, the prospects of recovery in insanity are much brighter than is generally supposed by medical men and the public. At all events, we may confidently assert that the prognosis in recent acute insanity is very much more favorable than in most other diseases of the brain, especially than in the various forms of epilepsy.

CHAPTER II.

THERAPEUTICS.

SECTION I.—*General Principles.*

§ 204. THE treatment of mental diseases has, in a very abundant measure, experienced the power of theoretical hypotheses, and the alternating influence of one-sided systems. The old humoral pathology taught, and till very recently, the elimination of black bile; the excitation theory sought, and still seeks, the increase or diminution of the action of the exciting powers; and the followers of the theory of localized inflammation profess, although in opposition to every-day experience, the ordinary antiphlogistic method as the basis of their treatment. Mental medicine had, more than this, an addition of its own to contend with in the moralizing ideas that were held by bigots regarding the treatment of insanity. One great principle, however, pervades the whole system of modern psychiatry—the great principle of humanity in the treatment of the insane, in contradistinction to that former barbarism which sometimes persecuted the mentally afflicted with trials for sorcery and death at the stake; sometimes, and this in the most favorable cases, cast them into dungeons, to be associated with criminals, where, beyond the influence of the medical art, and, deprived of all human aid, they were consigned to the realms of despotic cruelty and brutality. Certainly, it was that forced acknowledgment of insanity to be a disease—next to this, however, and mainly, it was that philanthropy which vindicated the claims of the insane from the stand-point of the common rights of humanity—that first achieved their recognition as human beings by society, towards whom protection and help was due; that they more and more become the objects of earnest guardianship by the State, and of earnest scientific research, whose aim is their cure. The retrospect of former times, and, above all, of the labors of Pinel, must be pleasing and elevating to the minds of all of us. That great principle of humanity is now placed beyond all possibility of dispute, and if we, as physicians, allow our practice to be governed by it, we do that which tends more than anything, on account of its empirical results, towards arriving at our first and only aim—the recovery of the patient; results regarding whose incomparable superiority to the experiences of former times no further proof is necessary. It is not the glitter of an abstract principle of philanthropy, however, that must guide us; it is practical utility—the results of suitably directed treatment at the bedside of the patient, or in the cell of the maniac. For this reason, also, we must acknowledge these humanitarian principles as rules of treatment only in so far as they further our aim; we must remember that that treatment is not always the most humane which best accords with the particular sentiments of the physician, or is most agreeable to the feelings of the patient, *but that which works a cure.* Psychiatry, then, should never degenerate from the gravity of a practical science into a system of sentimentality, such as even laymen could scarcely be found to defend.

§ 205. In the first place, it has so come about, from the fact of results arrived at through experience, that both the psychical and somatic methods of treatment are equally entitled to a precisely similar amount of our attention. Both modes of acting upon the patient have always instinctively been combined, and the most narrow-minded moralistic theory cannot possibly dispute the efficacy of properly directed medicaments—baths, etc.; while, at the same time, everyday experience has shown that almost no recovery can be perfected without psychical remedies (which may only consist of work, discipline, etc). In spite, however of the practical utility of this method, theoretical hypotheses have rendered it difficult for science to recognize the results of experience—the call for an undelayed combination of mental and physical remedies in mental disease on the ground of its necessity. Can deviations of the power of thought, it has been ironically demanded, be corrected by the thinning of an atrabilious blood or by the solution of stagnant fluids in the portal system? Shall mental pain be combated with sneezing-powders, and perverted witticisms with clyster-tubes? The votaries of physical treatment, on the other hand, urge the influence of the bodily states upon that of the mind; they appeal to the cases in which—ay, quite evidently—insanity has been cured by digitalis, camphor, etc.; and, as generally happens in such cases, science, which aims above all things at unity and consistency of principle, satisfies in the end both parties, by the eclectic admission that in individual urgent cases either the one or the other system of therapeutics must become secondary or assisting treatment to the other or chief plan of treatment. So, with the one party, psychical, with the other somatic, treatment plays, in comparison to the importance of the principal plan of treatment, only a subordinate and meagre part. But to understand the necessary equal right of both methods, it may be remembered, in the first place, that all psychical acts, normal or abnormal, are cerebral phenomena, and that cerebral activity may be modified quite as effectually, directly, and immediately by the evocation of frames of mind, emotions, and thoughts, as by diminishing the quantity of blood within the cranium, or by modifying the nutrition of the brain, as, for example, by narcotics and excitants. The fact that medicines proved empirically to be effectual have been employed in insanity, as in other diseases of the brain, requires no vindication; the frequent success of psychical treatment, too, in cases where palpable organic lesions had influenced the development of the mental disease, is explained by the influence which the brain exerts upon other organic processes: we have, therefore, a very powerful means of successfully modifying indirect disturbances of the somatic state (of the circulation, the digestion, etc.) in the direct provocation of certain states of mind. It is true that serious disorganizations of the brain (as imbecility with paralysis) render (of course) all moral influences impossible; but we know that insanity, at its commencement, consists very frequently of mere functional derangement, and that anatomical changes, if slight, do not render the success of moral treatment altogether impossible, provided that the organs are capable of accommodation to a certain extent to their respective functions; and the success which in recent times has attended many attempts, even in idiocy, and where the brain was defective, demonstrates that the skilful use of appropriate means renders possible a certain development of the understanding. From this point of view, the treatment of insanity appears to be eminently personal; it is simultaneously directed to the physical and mental nature of the individual, and when, in the following chapters, we speak in detail of the psychical and somatic as distinct modes of treatment, the fact of their intimate relation to one another cannot but be very evident.

§ 206. If the treatment of mental diseases (especially the physical) agrees in a great measure with the principles and practice of ordinary therapeutics, so also can we, with the greatest possible clearness and cogency, prove that several special claims are due to our department in every rational method of medical treatment. Nowhere is the desideratum strictly to keep in view the individual of greater importance than in the treatment of insanity; nowhere is the constant consciousness more necessary that it is not a disease, but an individual patient—that it is not mania, but an individual who has become maniacal—that is the object of our treatment. Each individual case should be specially investigated in all its bearings, which constantly vary, and all the means of anatomical diagnosis and pathological research ought to be brought to bear upon its elucidation; in fact, a penetration into the psychical individuality of the patient is here demanded, which is scarcely ever necessary in ordinary medical practice. Hence follows, on the one hand, the practical rule (urgent measures in cases of sudden accident excepted), that in no case should active treatment be commenced without previous careful inquiry into the previous history of the patient and the origin of the disease, and towards which all those special requisites have not been fulfilled which have been already spoken of in page 94 as constituting the first duties of the physician in the treatment of mental disease. It follows, therefore, that there is a degree of variety in the practical treatment of the insane which cannot be explained in detail in a treatise such as this, and of which we can only lay down and specify the general principles of treatment.

There is one point in the treatment of insanity which requires to be specially noted—the necessity of vigorous interposition on our part to prevent its assuming the chronic type; interference at the earliest possible period, at the very commencement of the malady, and even before its full development is necessary: what has already been said under the head of prognosis (§ 199) will have sufficed to establish this point. But, on the other hand, after it is fully developed, nothing is more to be avoided than impatience and over-officiousness in treatment. We must remember that the ordinary course of mental diseases, even in favorable cases, is slow; we have to reckon by months and by years; we must wait, and learn to take advantage of favorable periods, which are often late in beginning to make their appearance. We must seek carefully to oppose each symptom of the malady, and every indication of the delirious thoughts; and by a continuous and minute observation and strict superintendence of the patient, we can, in many cases, anticipate a favorable issue without the use of active measures.

In mental, as in many other diseases, the simple expective and dietetic treatment—which is so far removed from meriting the absurd reproach of the do-nothing—is in many cases, though not in all, far in advance of the employment of very active and often-changed remedies. To how small an extent their recovery is, properly speaking, due to direct medicinal interference, is seen from the similarity of statistics furnished by various asylums where the methods of treatment are essentially different (see page 331). It has been now long admitted that mental diseases are not to be cured by any special method of treatment; a conclusion based on the fact that in the two sections of the Bicetre, where then directly opposite methods were followed, the results as to recovery were exactly similar.

§ 207. Indeed, observation shows that very many cases of recent disease proceed spontaneously to recovery, without much positive interference, through a treatment limited to the warding off of all injurious influences. In relation to this, the causal indication next presents itself; the removal, so far as we can, of those causes by whose united influence the disease has arisen. And if the etiology, as it may, exhibits here many important points the removal of which is not within the province of the physician (compare the second book), still, to dissolve that mutual connection out of which the disease has arisen, it is often sufficient to do away with some of these injurious influences, whether concurrent physical diseases, or unfavorable psychical states. We should, therefore, in the first place, always try to discover means and ways to withdraw the patient from those influences to which his disease is traceable. The means are various enough; the removal of physical causes (§ 102–109) does not differ from the treatment ordinary in these conditions: special attention must be paid to all that might cause a determination of blood to the head; so also everything that might excite nervous irritation, whether through direct superexcitation of the brain, or disordered general nutrition and physical frame, or through exhaustion of any kind, must be rectified. The removal of psychical causes consists mainly in the simple prevention of their further effects, and in the temporary withdrawal of the patient from their influence. This, in general, can be done only by a complete change of his external condition through separation from his former domestic relations, more particularly if he continually finds in them new sources of emotion and vexation; where, too, the patient is altogether unaware of the deleterious influence of these circumstances, he must be withdrawn, at any price, from the continuous repetition of the impressions which engendered the disease. This, to a great extent, coincides with the important condition of carefully regulating the rest and activity of the brain (see following section), a key to the knowledge of the whole system of mental therapeutics.

The prophylaxis of mental disease is seldom the subject of medical consultation. By its means insanity could doubtless be to some extent diminished, as marriages might be prevented betwixt members of a family who were manifestly predisposed to mental disease. With reference to individual prophylaxis, much depends upon a well-regulated system of mental and physical diet. During the period of early education, all stimulus of the mental faculties must be avoided, and the development of the physical powers as much as possible encouraged. Everything tending to predominance of the imagination—physical weakness and effeminacy of disposition, or early sexual development—must be withdrawn. Care must be taken that, to the utmost possible extent, the external affairs of life are simple and methodical, continuous states of passion avoided, and habits of subordination instilled into the child. These, as has been justly remarked by Flemming, are not intended as mere abstract rules of good behavior which are of but little weight when the mind is deeply agitated by stormy passions; the power of resisting sorrow and emotion depends most of all upon a vigorous and powerful organization, and therefore upon a sound state of physical health and careful, unremitting attention to the removal of all diseases which have a tendency towards chronicity. The means employed towards arriving at this result, being chiefly hygienic, must necessarily vary in each individual case.

§ 208. In mental diseases, as in all other derangements of the organism, a duly regulated measure of repose and activity is amongst the most important means of treatment. In every case, if acute and recent, the primary indication is absolute rest of the brain, the suppression of all accustomed irritation, and still more of all stronger or positively injurious influences. The patient instinctively seeks this rest; he withdraws himself from every cheerful expression, from all bustle, fatiguing conversation, and everything that would be painful to him; he seeks solitude. So, when an individual falls into melancholia, all attempts to resist it by external distraction are useless or injurious. From loud and noisy amusements especially, the patient can receive now only painful impressions; it is still more injurious to ply him with impressive exhortations, queries, and admonitions. The mental activity to which he was accustomed is now a source of irritation; and only retreat from the accustomed sphere of life, solitude, and perfect rest of the brain, can act beneficially upon those on whose minds everything produces too great agitation. This object may be attained, according to the requirements of the case and its outward circumstances, through removal to retired and peaceful, and at the same time agreeable and pleasant associations; or through the strictest seclusion, and sometimes even through prevention of all impressions of sound and light; the latter especially in conditions of recent exaltation, and sometimes in melancholia, at its commencement and climax. As, however, in most diseases, a period ensues, after the termination of the acute stage, in which the organ gradually resumes its function, and can only regain its normal power through a return of well-directed activity; so here, too, there are periods where a further prolongation of deep stillness would be injurious, and where a new impetus in the normal direction is necessary to the psychical life to secure it against cessation and decline. In those already convalescent, this requisite appears of its own accord; but in very many cases, at the termination of the acute stage, and on entry of a state of quiet, it must be first awakened—aye, energetically aroused. From custom, the patient often continues to struggle against this healthy mental excitation, and still more against healthful self-exertion; while he nevertheless, chiefly through the resumption and practice of his power, can regain his former strength and healthy tendency, and many do not recover while energetic interference was neglected in this often short and always invaluable period. Thus, while with some such this object can be effected through agreeable sensuous impressions, visiting, re-entrance into society, light employments, etc., with others something like compulsion is often needful to rouse them from their mental torpor, and the whole range of mental therapeutics is, in such cases, especially to be employed.

It appears once more that the general principles of treatment in insanity correspond in a remarkable manner with the means which experience has shown to be useful in other nervous affections. In all states of acute irritation of any portion of the nervous system, we permit the strictest observance of that quiet which is instinctively sought by the patient. In many chronic nervous diseases, on the other hand (for example, conditions of muscular weakness), we pay no heed to the sensation of weakness felt by the patient; we know that it is rather by combating this sensation, so that he has frequently, at the commencement, to be half compelled to resume muscular action and exertion, that the normal innervation will again be ushered in and established. Brodie has repeatedly called attention to this point in the treatment of neuralgic and subparalytic conditions of the extremities.

§ 209. A very extended experience has shown that the above-mentioned requisites (§§ 207, 208) can, for the most part, only be complied with by totally changing the occupations of the patient, by entirely removing him from his usual neighborhood, and by exposing him to the influence of new and perfectly different impressions.

In rare cases only is a simple change of residence, or a sojourn in some quiet and agreeable part of the country, at all useful. More prolonged travelling, which in the milder cases of hypochondria is often of the greatest advantage, although, generally speaking, only attainable by the more wealthy, is in all severer and more confirmed cases of insanity wholly inadmissible. It tends usually only to increase the excitement, and the most serious, perplexing, and dangerous scenes which have occurred in our experience, have been those in which mania has come on after such "pleasure tours;" and justly does it recall to one's memory the old saying, that a man cannot, by travelling, or by change of abode, escape either from himself or from the vexatious burden of his own thoughts.

On the other hand, the removal of a patient thus situated into a place specially set apart for the reception of such cases, viz., into a good lunatic asylum, is, in the majority of instances, the treatment which is most prominently indicated. It is above all things necessary for the safety of the patient himself; for nowhere else, in ordinary circumstances, is he safe from the obtrusiveness and injudicious, though often well-meant, interference of his friends; and nowhere else does he meet with that indulgent forbearance which springs from a clear understanding of his case. The relatives of the patient generally regard his ever-increasing ill-humor as a fault which he might readily overcome if he chose, and meet it with all kinds of admonitions, instead of with ordinary cheerfulness and appeals to his reason; if, indeed, they do not look upon it as a case of obstinate dissimulation, and punish him accordingly with harshness and severity. None of them understand the patient; indulgence and severity are indiscriminately and wrongfully employed: consequently, distrust arises in his mind, and, as the result of this treatment, unpleasant scenes and struggles occur, which not only irritate the patient to the highest degree, but, by the recollection of them, render the return of the convalescent to his home peculiarly difficult. Particularly in families where a disposition to the malady has already manifested itself, a careful and complete separation is naturally the first step to be adopted; but even where this does not exist, aversion and enmity to his nearest relatives are often excited in the mind of the patient by the injudicious treatment to which he is subjected by them, and on this account the most complete isolation is demanded. By this means, too, the whole current of his ideas is suddenly interrupted and diverted into a new channel, and the tendency to the ever-increasing irritability of temper is successfully resisted by the different impressions and emotions to which he is exposed. How beneficial in these circumstances is the removal of the patient to an asylum, is shown by the fact that the mere idea of it is often sufficient to interrupt the progress of the disease; so that, in a few cases which have been till then in the highest degree unamenable to treatment, not only does perfect quiet ensue, but even the most decided improvement begins to manifest itself from the very moment of their reception into the asylum;

whilst, indeed, in the majority of cases the first period of their residence in such an institution is marked by a notable remission of the symptoms. Here alone, viz., in the asylum, does the patient, who is no longer able to take his part in the business of life, find everything that his misfortunes require: a physician well acquainted with the treatment of cases similar to his own; skilful attendants who, as well as all about him, know how to treat him suitably to the circumstances of his case; an asylum where his eccentric behavior is concealed from over-officious eyes, where the necessary surveillance is unobtrusively accorded him, and where he has usually a far greater amount of freedom than he could possibly have under any other circumstances. Here he can weep or give vent to his rage by himself, if necessary; but generally speaking, his restless habits, and the noisy expression of his maniacal impulses, are materially controlled by the example of the other patients, and by the ruling spirit of peace and order; he is brought of his own accord into the quiet routine of the house, and little more direct coercion is necessary to overcome any opposition that may arise than the singular feeling of utter powerlessness to resist the overwhelming authority that prevails over everything. Here he meets with forbearance and attention, with common sense and words of kindness; he feels that, in conformity with the circumstances of his case, he is treated as an actual invalid; and he also observes that here resistance is utterly useless, and soon learns to submit to the injunctions of his medical attendant, and notices that his whole style of treatment, and the amount of liberty and enjoyment accorded to him, entirely depend upon his condition, and the degree of self-command exercised by him. He finds here the essential helps to self-government; he learns again to take an interest in things; while, simultaneously with this care for his mental improvement, a bodily treatment, by means of a regulated diet, baths, exercise in the open air, medicine, etc., can be constantly and satisfactorily carried on. In this manner the patient becomes conscious of an intelligent, gentle, and constant superintendence, from which he gathers confidence and hope; and the sight of the other patients, already well and fast convalescing, awakens in his mind the hope that his own health will also be re-established, and when the natural longing for return to his home again springs up, generally speaking, the patient leaves it with entire confidence to the discretion of the physician to fix the date of his dismissal.

§ 210. Most convalescents bless the day of their entrance into the asylum, and the advantage of removal to such an institution, first most urgently insisted on by Esquirol, has since then, as the result of an overwhelming experience, been established as a fundamental principle, not only in psychiatry, but is daily becoming more and more recognized as such by the great bulk of medical men generally, as well as by the laity themselves. But this removal, which, on the one hand, when certain indications manifest themselves, cannot be too soon effected, cannot fail, on the other hand, to exercise a very important influence on the future career of the patient as a citizen, and is a step which always demands the gravest consideration. The first and most urgent indication for this procedure is that condition of the patient where he may be dangerous either to himself or to others, or may cause any great disturbance; the outbreak of mania, or unmistakable signs of its approach are manifested; a tendency to commit suicide, the prevention of which in private can never with certainty be relied upon; and refusal of food, such as cannot be easily overcome. Moreover, all cases of mania, many of monomania, and many unruly dements are proper subjects for a lunatic asylum; and the harmless dement, in the early stage of his malady, in which there is often some graver mischief lurking, finds there, at the earliest possible period, his disease correctly diagnosed and properly treated. Secondary apathetic and paralytic dementia, on the other hand, are fit subjects for treatment in private, in any place where careful attention can be secured. The determination, when removal to an asylum is really indicated, is only occasionally difficult in melancholia: what we observed with regard to the adoption of this measure in hypochondriasis, inclines us to look upon it rather unfavorably than otherwise at first sight; there we saw that not till the patient has become wholly incapable of self-control does this step appear to be at all called for. So, likewise, simple melancholia does not, during the first few weeks, seem to necessitate removal to an asylum, so long as it remains of a mild character and with a slight disposition towards improvement; probably, change of scene or an excursion to the country may prove sufficient, provided that the patient is there surrounded by judicious attendants who will studiously enforce all the directions of the physician. But, on the other hand, if the melancholia has continued for some months unchanged, and rather increasing than otherwise; and if the patient become from time to time subject to illusions, and becomes disturbed by troublesome hallucinations; or if the case degenerates into one of hopeless stupidity or apathetic indifference—removal to an asylum must no longer be delayed. However, the indication depends, in many cases, less upon the form and kind of the disease than upon the circumstances and character of the patient. It is always the more necessary according as it is less possible for the patient to have paid him at home all the attention he needs; for the less perfectly the measures necessary for treatment can be carried out, the more does the patient seem disposed resolutely to resist them.

The prejudice that the reason of the patient will only become more deeply affected by intercouse with other lunatics, springs from the grossest ignorance of the subject. In every well-ordered institution there is a proper separation of the inmates, so that each individual associates only with a few whose company is suitable; the new patient never has, for example, any intercourse with the bad and hopeless cases, which could not fail to exercise a deleterious influence upon him. Those patients who come in contact with one another, though on the best of terms, are at the same time profoundly indifferent about each other, each one being almost wholly occupied with himself. Many remark the insanity of others, and become cognizant of their own state by observing that a similar course of treatment is adopted towards them; and it exerts the most beneficial influence upon the new patients, to be led spontaneously, through the example of those around them, to conform to the order and routine of the establishment, and to learn from the others submission to all over them, and, from the recoveries and dismissals taking place around them, to become tranquil, and encourage the hope that they too will some day be dismissed.

SECTION II.—*Physical Treatment.*

§ 211. The reflection that many of these patients recover spontaneously under a system of treatment in favor of which nothing more can be said than that it is not positively injurious, will guard us against vulgar therapeutic illusions. The idea of some specific against insanity as a whole, or against its various forms, mania, melancholy, etc., is counterbalanced by the reflection how widely different the diseases which give rise to the symptoms of insanity are in relation to the anatomical state of the brain and to the pathogeny. The primary object of somatic treatment is the progressing morbid state which led to the development of the cerebral disease, with special regard to the organs of circulation and respiration; to the condition of the blood, of the secretions, of the gastro-intestinal mucous membrane, and to the organs of generation. The treatment of the anomalies here observed presents no peculiarity. The admission of such disorders without sufficient foundation, but only suggested by theoretical supposition to strengthen a particular hypothesis, must, on the one hand, be carefully guarded against. On the other hand, it is to be remembered that in insanity the diagnosis of bodily disease is often rendered very difficult, inasmuch as many patients do not at all, or very inadequately, express their sensations; and because, in virtue of the brain affection, many symptoms—especially subjective—which we otherwise find are absent, as in phthisis, pneumonia. Therefore ought the objective diagnosis to be more carefully practised. Where no rational indications in a pathogenetic point of view present themselves, the present state of the brain is exclusively the object of somatic treatment; and according to the probability or certainty of cerebral irritation—hyperæmia—or inflammation, the treatment ought to be immediately directed against these conditions precisely as under other circumstances.

In the use of medicines, the prevalent opinion that the insane always require considerably larger doses is frequently hurtful to the patient. In many cases, no ground for this opinion exists; in others, the greater tolerance is only apparent, since the patient conceals many adverse effects, as nausea, in the storm of the delirium they are not observed, or by a peculiarity of his disease the patient endures them without complaint, while the action upon the organs in no case fails; for example, erosion of the gastric mucous membrane by large doses of tartar-emetic: only in a few cases are uncommonly large doses of certain medicines, particularly purgatives and narcotics, given. In this respect there is great difference among individuals, and the effect cannot be reckoned beforehand; therefore moderate doses must in all cases be first tried, from which (of course, sometimes rapidly) a transition to stronger ones may be made.

In general, special somatic treatment is more needful in recent than in long-protracted states of insanity. These latter cases, where so frequently the bodily health is not disturbed, give, therefore, no decided indications for the use of medicines, nor has their empirical employment by way of trial shown itself in the least degree beneficial. Still, there are cases where, even without rational indication, it is advantageous to give medicines to the patient, but consisting only of indifferent substances, merely to show him that he is really considered ill, to sustain hope, and to remind him of a steady medical supervision. Here medicines act as moral remedies, as in the case of very distrustful patients who look upon the asylum as a state prison, a place for criminals and the like—of hypochondriacs, etc. Under the subject of bodily treatment we shall not speak of all the means which might be indicated, but only of those which, with direct reference to the brain-disease, show themselves to be decidedly useful, or such as from the nature of the symptoms would be specially indicated.

§ 212. The use of bleeding, to which physicians have been led partly and principally by theories of inflammation, partly by the results of pathological anatomy—partly by the symptoms of the diseases, which are often violent—has in recent times been considerably restricted, and all are agreed that the necessity for venesection is not to be inferred from delirium, or any of its forms, even the most active, excited, and furious.

A state of generally diminished nutrition and anæmia, not only after loss of blood and other causes of physical weakness, but quite as frequently after prolonged states of mental pain, belong very often to the etiological conditions of insanity, and especially of mania. These cases, and next to them such as arise from habitual intemperance, naturally contra-indicate any abstraction of blood.

If, however, bleeding be employed in such cases, there usually follows an aggravation of all the symptoms: its practice, therefore, in individuals hitherto melancholy, very frequently causes an outbreak of mania. In the states of extreme excitement which accompany acute meningitis, and in decided general plethora, it is more justifiable; but even here venesection is generally quite superfluous: decided and rapid results are specially seen only in those sudden and violent states of congestion which sometimes appear along with the symptoms of mental disorders after strong sudden emotions, with stormy, irregular heart-action, and symptoms of overfulness of the lesser circulation.

Venesection was formerly the subject of various opinions and numerous discussions;[1] the conviction is now general that in most cases it is not only useless, but injurious, and that seldom it is of real utility; and we cannot too earnestly exhort those practitioners whose chief care is devoted to the insane, as far as possible to spare the blood of their patients. Formerly, in Bethlehem all the patients were bled several times during the summer; and the most abused, most extensive, use of this remedy was known in France during the last century as "traitement de l'Hôtel-Dieu." Willis, Chiarugi, but especially Pinel, declared themselves strongly against the abusive use of bleeding; Hill, Esquirol, Burrows, and most of the German physicians, agreed with them. The chief advocate of profuse bleeding, especially in mania, was Rush ('Untersuchungen über die Seelen-Krankheiten,' translation by König, Leipzig, 1825, p. 149); Haslam, Foville, and others, frequently employed it in a moderate degree. It is remarkable that out of 200 patients upon whom Haslam performed venesection in Bethlehem, the blood of 6 only showed a crust (Rush, l. c., p. 150). Several indications for venesection, which are only partially true, have been laid down, such as youth, recentness of attack, strong pulsation of the arteries of the head—which, however is also present in delirium resulting from anæmia (M. Hall): moderate cerebral congestion (warm head, redness of the eyes, etc.) does not at all indicate a necessity for venesection, as it is frequently the result of impaired general nutrition.

Local bleeding by means of cupping-glasses and leeches is much more generally employed than venesection. In acute meningitis its effect is more certain and more immediate in relieving the brain; in intense cerebral congestions we frequently see it exercising a very favorable and rapid influence upon the mental disease; and if the effect is seldom permanent, the remedy can easily be repeated: sometimes its long-continued application at regular intervals is attended with a favorable result. Simple hyperæmias alone yield to these means; that the true chronic meningitic and encephalitic processes can no more be removed through bleeding than other chronic inflammations, will not suprise us if we consider the previous processes which there take place. Cupping-glasses should be applied to the shaven scalp or to the nape of the neck; leeches should, where possible, be applied in the neighborhood of emissaries—behind the ear, to the Schneiderian membrane, the veins of which communicate with the longitudinal sinus, etc. In women it may be sometimes necessary to apply the leeches to the genital organs; abstraction of blood from the anus in the treatment of congestion of the head is an uncertain and sometimes even prejudicial measure.

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[1] *Résumés* of this subject are given by Friedreich, in Friedreich and Bluröder's 'Blätter für Psychiatrie;' J. Nasse, in Jacobi's and Nasse's 'Zeitschrift,' i., p. 216; Smith, 'On the Bad Effects of General Bloodletting," etc., 'Lancet,' August, 1846; Pliny Earle, 'American Journal of Insanity,' April 1852 (very comprehensive).

§ 213. In the treatment of hyperæmia of the brain, *cold* is extensively and advantageously employed, but not in the form of the ordinary cold plunge-baths, to which the practitioner so readily recurs to quiet recent cases of mania, but which frequently only increase the fury and even augment the cerebral congestion. Zeller, and in latter times Jacobi, have decidedly expressed themselves against the fruitlessness of this mode of treatment. We have ourselves seen cases where the douche was several times employed, and always followed by a visible aggravations of the symptoms: it is only in cases of melancholic stupor that it may occasionally be employed with advantage. The strong shower-bath should scarcely be employed as a means of cure, but rather as a means of punishment auxiliary to moral treatment; to this end it should only be continued for a short time, and, if necessary, repeated during the day.

Amongst modern authors who still recommend the douche, Ideler may be especially mentioned (Charité-Annalen, i., 4, 1850, p. 692). Besides he applies it more frequently to the spine than to the head (from the neck to the haunches); this he has found exceedingly useful in idiopathic insanity (which, according to him, arises immediately from the passions!) during the period of remission in mania, in states of general sluggishness and stupor, in certain cases in melancholia and monomania, and also in individuals who have become affected through alcoholic and sexual excesses.

The application of the ice to the head, or of cold compresses, which the patient himself often earnestly desires, is also useful in many states of excitement where the head is hot, the carotid arteries pulsate strongly, etc.; and the application of cold to the head during a tepid bath, either in the form of a compress or as a shower gently falling from a moderate height, is particularly beneficial. The great calm which often succeeds, and the marked feeling of ease experienced by the patient, may indicate the advantage of employing it even several times a day to allay agitation as often as it appears. Insolation, wounds of the head, threatening apoplexy with symptoms of congestion, render the application of cold to the head especially urgent.

On the other hand, baths of the most varied description are now much more extensively employed, and their judicious use is followed by the greatest advantage in the disorders of the brain which are the causes of insanity. Occasionally, especially in young persons of the female sex and in hysterical patients, the use of cold baths, and if possible of river baths, is indicated: of more general employment and utility are tepid baths in older and especially in recent cases. Besides their cleansing and invigorating effect, they, by uniformly and gently stimulating the nerves of the skin, and moderating and regulating the respiration and heart's action, appear to exert a remarkably tranquillizing influence in these diseases. They are usually continued for from thirty minutes to one hour; in acute cases where there is extreme excitement this period is often insufficient, and in such cases the plan recommended by Brierre de Boismont, of leaving the patient in the bath for several hours, a uniform temperature of course being maintained, proves a very valuable means of treatment. This method, however, is not suitable in chronic conditions—in aged, weakly cachectic persons, when the pulse is weak—or in epilepsy and commencing paralysis.[1] The bath frequently induces the much-required sleep. It often seems to prevent hyperæmia of the brain from becoming fixed; and where the patients willingly submit to the remedy, there is scarce any contra-indication to its use, excepting phthisis, evident anæmia, or general paralysis, whether incipient or confirmed. According to circumstances, sulphur, iron, aromatic plants, etc., may be added. Footh-baths, in certain cases, assist in relieving the head.

In the first edition of this work, I have already expressed my opinion of the treatment in hydropathic institutions. Since then, facts from all quarters have been elicited proving the injury which it generally inflicts on the mentally diseased. Most asylum physicians are in a position to contribute examples of this: Flemming, Erlenmeyer, Damerow, Sponholz, etc., have expressed themselves decidedly upon this point. This violent procedure seems much to favor the transition to general paralysis. The absurdity of sending patients to cold-water establishments, instead of into lunatic asylums, would be incredible were it not of daily occurrence, still, it is evident that, in certain cases, the occasional use of wet compresses, cold sitz-baths, and, above all, cold washing followed by dry friction, can, under special indications, be beneficially employed. Guislain has laid down several rather indefinite rules for the administration of cold baths (from 14–17 R., 5–25 minutes; 'Leç. or.,' iii., p. 115): he has found them, however, of more general service in cases of upwards of six months' standing, than in quite recent cases. Jacobi's practice ('Ztschr. f. Psych.,' xi., p. 379) of quieting maniacal excitement by means of baths of half an hour's continuance, and of 13° R., appears to be very well considered.

§ 214. The cutaneous irritants and the so-called derivatives are often applied to improper parts. Blisters are, in ordinary cases, useless: placed upon the head, they frequently increase the irritation; in melancholic stupor, again, they seem occasionally to be used with advantage, especially when placed upon the neck. The ointments and plasters of tartar-emetic, which are used by some in the most extravagant manner, even to necrosis of the cranial bones, are certainly useful, especially in certain melancholic forms, and occasionally in protracted transitions of the primary forms into states of weakness (Jacobi). These also are applied to the skull, to the neck, and even to more distant parts, and should only be continued till moderate suppuration ensues; they are chiefly useful in a moral aspect, as the continued acute pain, which constantly forces itself on the consciousnees, breaks the chain of morbid ideas, and prevents the mind dwelling on them. The seton might be advantageously employed, especially in certain cases of injury to the head. The moxa and cautery, the latter of which was often ineffectually employed in former times in general paralysis, do not possess any permanent advantage, and are not now used. All these grave cutaneous irritants are not only quite unserviceable in cases of acute excitement, but also in cases of deep dementia, where the irritated surface is often subjected to violent rubbing and to the action of cold: serious erysipelatous inflammations may hereby result, and in certain powerless conditions gangrene may even ensue—dangers which are far from being counterbalanced by the problematic advantages of these applications.

Tartar-emetic ointment had gone much out of use, when the account of some happy results gained by Jacobi again brought it for a time into favor. This author had a part of the top of the head shaved, upon which he painted some of the ointment with a brush until the inflammation and swelling spread over all the head, and the skin upon the place of application sloughed and was brought away with poultices (!): during this time the patient was allowed only water, soup, milk, and white bread. Several chronic cases, in the stage of transition to chronic mania and dementia, were improved by this treatment; Guislain and others obtained some good results from it in the same states, and also in melancholy with stupor, and other similar conditions. The employment of such means, which should only be used in desperate cases, is, under all circumstances, wholly to be avoided in mania, in recent cases with great excitement, and in very sensitive irritable natures already exhausted by bodily or mental pain.

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[1] See Brierre, 'Mém. de l'Acad. de Méd.,' 1847. He allowed maniacs to remain in a warm bath, sometimes for from six to ten hours, with cold applied to the head; but from three to four hours will always be found sufficient. Pinel's nephew has given, in cases of mania, baths of several days' (!!) continuance, with a constant stream of cold water on the head.

§ 215. At first sight, much might be expected from the direct influence of narcotics upon the functions of the brain. The cases, however, in which these remedies can be advantageously employed will be much reduced if we consider how frequently insanity is the gradually matured and deep-rooted result of combined influences, that it often depends upon anatomical changes, and that even the most powerful narcotics, with some notable exceptions, are suited rather for temporary use. Observation also shows that these remedies are only serviceable within a limited circle of conditions, in which they are certainly very useful as means of cure, and, besides, they are of essential service in diminishing and suppressing certain symptoms.

Among all remedies of this kind, opium is pre-eminent for its narcotic effects, and also as that from which in other respects we can anticipate the most powerful results; not, however, as it was formerly used, in small and squandered doses, which had little or no permanent effect, but in doses larger and longer continued—a method which must be admitted to be in advance of modern psychiatry. According to this method, there is given at first about one grain twice a day; this is gradually increased to 3–6 grains twice a day, which is continued for several weeks. By this system, no appearances of intoxication are observed, and no unfavorable influence on the nutrition; regular, indeed rather loose stools, where we employ larger doses; there is never profuse sleep, but, in cases adapted for this treatment, rather improvement in the symptoms of cerebral irritation, increasing quietness of the patients, lessening of the hallucinations, disappearance of the feelings of anxiety and of the insane notions accompanying them, and sometimes rapid and complete recovery. It is in harmony with numerous and concurring experiences, that in recent cases, in young persons, and especially in women, in states of sadness due to the influence of anæmia, hypochondriasis, hysteria, and mental causes often advancing to great disquietude and excitement (active melancholy), such favorable influences should make their appearance, particularly also in many puerperal mental disorders, and in delirium tremens. In the conditions of melancholy with stupor, and, above all, with great passiveness; in mania proper, in the lively excitement of monomania—this method seems to effect nothing: it follows, therefore, that the cases for its use occur more frequently in private practice, during a short existence of the malady, than in asylums.

See H. Engelken, 'Prot. der Naturforscher-Versammlung in Bremen, 1844;' F. Engelken, 'Zeitschrift für Psychiatrie,' viii., 1851, p. 393; Schubert, 'Med. Vereinszeitung,' 1857, No. 24; L. Meyer, 'Ztschr. f. Psych.,' 1860, No. 4; Erlenmeyer, 'Arch. d. d. Ges. f. Psych.,' iii., 1, 1860, p. 53. Besides, many physicians, Guislain ('Leç. or.,' iii , p. 28), Michéa, Zeller, etc., have expressed themselves favorably upon the system of large doses. Morphia appears to be less serviceable than opium; Guislain alone ascribes to it better effects.

Likewise in states of excitement, but especially of a maniacal kind, digitalis is employed. Although it is primarily indicated by irregularity of the circulation, violent heart's action, great frequency of pulse, and by changes of structure in the heart—and then it may be employed in melancholia as well as in mania—nevertheless the empirical use of this medicine is often justified by its success, even in cases where there is no disturbance of the cardiac efficiency. Digitalis has the advantage that it can be given for a long time continuously, and may in certain cases be advantageously combined with other diuretics; moderate doses are at first employed; the acceleration of the pulse occasionally observed during the early periods of its use passes speedily into abatement, and in certain cases it is advantageous to keep the pulse for some time under the normal frequency by doses of the medicine adapted to each case; the larger doses, which easily produce vomiting, should be only carefully and gradually administered. States of sexual excitement contra-indicate the use of digitalis, which, like other diuretics, appears to increase the excitement, and sometimes is what first calls it forth.

High expectations were formed of ether and chloroform when anæsthesia was first discovered; and certainly complete and rapid recovery has occurred in several cases of recent active melancholia. But numerous observations have shown that frequently (although not invariably) a temporary remission of the melancholia and mania, sometimes a complete lucid interval, follows the awaking from the narcotic effects of chloroform; soon afterwards, however, the morbid symptoms return, and with each inhalation the remissions gradually shorten till they can no longer be obtained. Certainly, there are cases, as in violent puerperal mania, where it is of the utmost importance to obtain a short interval of calm, and in such cases anæsthesia may be employed: ether clysters (℈j. to ℥j.) may also be used to obtain quiet in states of nervous excitement. But often it does not exert this soothing effect, sometimes it seems rather to increase the agitation. In all cases the utmost care should be observed in its administration (proper entrance of air, etc.).

See Meyer, 'Charité Annalen,' viii., 2, 1857, p. 69. Morel (1854) employed anæsthesia to discover malingering, but without effect.

Hydrocyanic acid (Aqua Lauro-cerasi, Aqua Amygdal. Amar.) is occasionally useful as an accessory medicine in states of moderate exaltation, melancholic anxiety, etc., in the early stages. Its sedative effect appears to us to be more effectual in females. The use of Datura Stramonium, which was long ago much employed, has been recently revived with some success, especially in hallucinations of sight, hearing (Moreau, Billod). In the hallucinations of chronic mania and dementia it has no effect, and numerous proofs of its uselessness in other cases may be found. Nevertheless, it appears to be beneficial in cases where simultaneously with the outbreak of insanity the hallucinations of hearing, which on account of their immediate psychical effects are so unfavorable, constitute the chief symptoms. It must then be administered in large, even intoxicating, doses.[1] Belladonna, which is now little used, can also be tried in predominant hallucinations of the above two senses. There are no established indications for the employment of these remedies, both of them seem contra-indicated when there is hyperæmia of the brain. Quinine is useful in regularly intermitting forms, and can also be advantageously used to counteract certain neuralgic states which are often evidently productive of delirious ideas. Assafœtida has been recommended by Guislain in large doses, in hysterical affections of the mind. Certain medicines (Brucin, Hachish, etc.), which hitherto have been little used, promise by careful experiment to become valuable adjuncts to mental therapeutics.

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[1] But with great caution: we have seen, in a case in the Salpêtrière, considerable emaciation, a state of marasmus, result. More recent experiences, which may be of some efficacy in hallucinations, by Boureau, may be found in the 'Annales Méd. Psychol.,' vi., 1854, p. 555.

Alcoholics are to be wholly condemned in the treatment of the insane in general, particularly in recent cases; during convalescence, they are only to be administered with the utmost caution. It is only in exceptional cases, as in those of former drunkards who have fallen into a state of deep mental weakness with serous infiltration of the extremities, that the use of strong wine may be useful.

Tobacco is much used by the insane, but only in snuffing and smoking. The great predilection of many, especially chronic patients, for the irritation of snuff is well known; and often a snuff good-humoredly offered to an insane person prevents him breaking out in a storm of invectives, brings him to himself and calms him. Strong snuff is occasionally administered to produce a sanguineous secretion from the Schneiderian membrane. The smoking of tobacco by those who have been accustomed to it, aids the easy flow of the ideas and equalizes the temper. The return of the desire should be watched and encouraged; for even such habits, unimportant in themselves, may assist the mind to resume its former thoughts, and to follow its former courses. In the commencement of paralysis, all use of tobacco should be forbidden.

§ 216. Those medicines which act upon the digestive canal are the oldest, and still those that are most frequently used. Besides their evident indication in constipation—which is common in these diseases, and very often better obviated by dietetic means and mild clysters than by medicines—they are also given with advantage in all recent cases associated with cerebral congestion, and are the chief remedy in acute inflammatory states of the brain. Strong and rapid purgatives (croton oil, etc.) are suitable in these cases; for a more moderate effect, senna, rhubarb, and the various saline purgatives, are used. The long-continued employment of mild laxatives (the various salts of potash and soda, or, better still, the aperient soda mineral waters) often proves useful in chronic cases, even where there is no constipation. We must not expect from the use of these means a great curative action, and in hypochondriacal state they often prove injurious. Drastic cathartics are to be entirely avoided where there is chronic disease of the genital organs, and the long-continued use of any strong purgative may become the cause of serious intestinal catarrh.

Emetics are sometimes employed in the treatment of evident disorder of the gastric digestion; occasionally, especially in melancholia, they are employed chiefly for their mental effects; in puerperal mental disorders especially, a rapid and favorable effect is sometimes observed (Flemming). The so-called nauseant cure by small doses of tartar-emetic may, perhaps, through its long-continued nauseous impression upon the nervous system, modify the humor and interrupt the mental pain by substitution of a disagreeable bodily sensation. In the same way, the maniac may be quieted by the prostration which is consequent on the medicine; but any real advantage is but seldom obtained: while there are no decided reasons for the continuance of these palliative means, their injurious effects are, on the other hand, evident. The whole system of the nauseant cure is to be considered a remnant of the barbarous age of therapeutics, and the enormous doses of tartar-emetic (gr. xij.–xx.) which are employed by some are to be emphatically denounced. The consequences of such rough practice are not only the formation of pustules in the mouth and œsophagus, circumscribed gastritis, but rapid paralytic collapse may even result. Anthelmintics are occasionally useful, especially in the mental disorders of children.

§ 217. Of the class of excitants which have a special action on the nervous system, camphor has for a long time been much employed.[1] The experiences of several practitioners warrant us in making further trial of this remedy. It is especially indicated in cases of sexual irritation, as seen at the outbreak of puerperal insanity; in such cases it must be administered in considerable doses. The experiments with musk, phosphorus, arnica, etc., to "vivify" the brain, betray, in our opinion, an uncommon degree of ignorance of therapeutics.

Cooling remedies are frequently indicated—as nitre, acid drinks, etc. Bitters and tonics may be necessary in cases of long-disordered digestion and in anæmia. Iron is especially useful in many cases, and is very beneficial in many nervous hysterical disorders of females; cod-liver oil may be advantageously administered with it in cases of anæmia with emaciation. Emmenagogues are frequently useful, particularly at the commencement of insanity, partly arising from disorders of the menstrual functions: in chronic cases, also, menstruation is to be watched. More frequently, however, it is necessary to apply local treatment to the generative organs, as in uterine catarrh, affections of the vagina, etc., so frequently the cause of functional disorders of nerve-centres, and so difficult to cure by internal treatment. Cases frequently occur where antisphilitic treatment is necessary to counteract cerebral disease (p. 138). The employment of electricity without evident reasons for it is to be denounced; local nervous pains may occasionally by this means be successfully treated.

§ 218. With reference to diet and nourishment, the fact that insanity often depends upon inflammatory processes within the cranium, might suggest the necessity of antiphlogistic regimen. Nothing would be more hurtful to the patient; experience shows that these diseases, whether depending on such inflammatory processes or on simple irritation, are frequently associated with general anæmia and defective nutrition; that frequently the appetite of the patient is increased; that spare diet irritates and is positively injurious; that the frequent increased expenditure of muscular force demands correspondingly increased nourishment; that the general state of the patient is most improved by stimulating diet, and that refreshing sleep, and the feeling of well-being, are induced by sufficient food. Of course, the effects must be carefully watched, and the diet regulated accordingly; in acute meningitis, and in all febrile states, spare diet is prescribed; in impaired digestion, simple diet, as milk, etc., with those who have led a life of dissipation, retirement, and simplicity, are often speedily beneficial. Water and simple beverages must generally be the drinks allowed (p. 348), and should be copiously administered in all recent and acute cases: tea and coffee are forbidden in all acute cases. A common table in the asylum, where admissible, stimulates the appetite and social feeling among the patients, recalling to the memory of the convalescent those customs of society which are the external evidences of healthy sensations, and which they have in many cases forgotten.

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[1] As, for example, Perfect, 'Selected Cases, etc., from Michaelis,' Leipzig, 1789

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In all cases of insanity, whether recent or of long standing, next to diet, the proper regulation of rest and activity is most necessary to be observed, fresh and open air, and, in the less acute cases, abundance of outdoor exercise on foot, or sometimes in a carriage. No asylum is complete which has not space sufficient to admit of prolonged outdoor exercise for all classes of its inmates—in gardens, airing-courts, etc. In many chronic cases it is highly beneficial to prescribe gymnastic exercises and cheerful games which necessitate exercise, where, in the harmless excitement of the game, the patient for a time forgets self and the thoughts which harass him. Sleep should be the result of work, of exercise in the open air, of fatigue; it may also be promoted by baths, by quiet and stillness, seldom by narcotics. Except where special rest is necessary, the patient should be accustomed to early rising; idle lying in bed, which, especially with women, so easily becomes a habit, and leads to considerable enfeeblement of the whole muscular system, should not be allowed. It is only in certain cases of acute melancholy, where there is a general enfeeblement of the vital powers, that long rest in bed is beneficial and necessary.

As to temperature, we need only repeat that the insane are not, as was formerly supposed, insensible to warmth and cold. In winter the apartments should be heated, and patients who are inclined always to sit still or stand motionless, and whose extremities are often cold, should be the objects of special care. Where there is tendency to cerebral congestion the temperature should be kept low and the head cool.

Personal cleanliness is most important. The methods of attaining this are well known, and its object is not only to maintain the health and function of the skin, to prevent the evil effects of prolonged decubitus in paralytics, etc., but the feeling of comfort which corresponds to external attention to the body is the foundation of mental well-being; and the habit of external care also promotes internal order and regularity. In the same way all dietetic measures, when systematically employed, act beneficially on the patient. They are therefore a powerful aid to moral treatment, while all outward disorder and confusion distract the mind, and thus deprive it of self-adjusting power.

SECTION III.—*Moral Treatment.*

§ 219. Mental activity, constantly employed on account of its indirect action on the organic processes, is also used to call up ideas, images, feelings, and efforts, for the purpose of directly modifying mental anomalies. This is effected only to a slight extent by any positive influence exerted by the physician upon the patient, such as exhortation, encouragement, or even surprises, punishments, looks, etc.; much is gained by negative measures. Often even the gait of the patient is such as to admit the hope of a rapid spontaneous cure; in such a case the removal of all exciting causes, and a proper regulation of the external circumstances, are frequently sufficient, especially if the patient has also the feeling of subjection to a rational and well-meant control, and is being gradually habituated to proper outward behavior.

The more direct moral action, for the purpose of restoring mental health, may again be reduced to two indications, which may be understood quite as well from a profound theoretical acquaintance with insanity, as from the practical knowledge of a successful system of treatment. In the first place, the morbid dispositions and ideas which repress and conceal the former (healthy) individuality must be uprooted and destroyed;

in the second place, the old *ego*, which in insanity for a long time is not lost, but only superficially repressed, or hidden in a storm of emotion, behind which it remains for a long time capable and ready to re-establish itself, must, as far as possible, be recalled and strengthened. If, as we have already hinted, there is some analogy between the moral treatment of the insane and the art of education, in the aim proposed and the means employed, they present, however, essential differences in the latter respect. For in the moral treatment of the insane the creation of new ideas is not contemplated, but the re-establishment of the old; it does not contemplate any improvement on the *ego* to be replaced, the realization of which is the great object of education (*e.g.* to make it moral); but the sole object is the replacement of the former healthy *ego*, whether it may have been distinguished by virtues or obscured by manifold defects. Any attempts at improvement can only be useful after recovery. If the success of education is favored by pliableness of disposition, so the moral treatment of insanity is most successful where the *ego*, already formed, fixed, and only temporarily repressed, for a long time waits the opportunity to resume its former place, and sometimes even struggles with all its powers against the disease. Hence, it results that very often merely negative moral treatment is sufficient, viz. the simple removal of all hurtful influences. Is it, then, wonderful that so many of the insane completely recover in the hands of rough and unskilled persons?

§ 220. As to the first indication, namely the weakening of the morbid dispositions, feelings, and ideas, the most extended experience shows that we seldom arrive at a favorable result by directly opposing them. The diseased mind, even on account of its morbid state, will not receive remonstrances and advice, much less moral representations; above all, it will not suffer the procedure ordinarily directed against the bad dispositions of persons in health. This ill-humor proceeds necessarily from disease of the brain, and the patient can no more divest himself of it by an act of will, than the subject of irritation of the retina can escape the colored images which result from it. Much can be done to remove this ill-humor by physical treatment, by rational expective treatment, whereby the feeling may sometimes be got rid of by permitting its outburst as in mania; sometimes the symptoms may be repressed, but their diversion by moral means, which is soon to be spoken of, is always the principal object. Quite as useless and even more injurious than such simple exhortation, is any attempt directly to overcome the delusive ideas of the patient by logical reasoning. All direct, especially passionate, discussion generally augments the delusion by instigating the patient to justify his views, seek reasons for them, and irritates and exasperates him according to the force and acuteness of his opponent's arguments; the raillery which always accompanies such reasoning is also injurious to him. The morbid ideas are not to be subdued by any kind of proof or evidence. To spread all his wealth before a patient who thinks he is ruined, to pull down the wall in which another fancies his tormenting enemey is hid, would only irritate them and call their attention more forcibly to their false ideas: in very favorable cases we may obtain an apparent consent and compliance; most commonly, however, they will only substitute one form of delusion for another of a worse kind. All this will be sufficiently explained by what has been said (p. 50) upon the manner in which insane ideas originate from dispositions becoming fixed; only by the removal of these is the insanity to be thoroughly uprooted.

Occasional exceptions to the general rule not to attack insanity by direct means of evidence, occur in convalescents in whom fragments of the insane ideas still remain after the disappearance of the disorder, and also in the early stages of insanity, where the rising insane notions confront the patient still as vague images, and where the *ego* still opposing the disease can find help from the external view of the true state of affairs.[1] But, even in these cases little can be expected from much exhortation and attempts at conviction; it is preferable to intimate the real condition as if by accident, and thus to let the patient think that he has arrived at the conclusion by himself, all controversy tires and aggravates, excites distrust and aversion.

Another means of direct opposition, to be reserved for rare and desperate cases, consists in the forcible repression of every expression of the insane ideas, in a judicious system of attack on every insane word or deed. The chief means of this kind is the douche, while the patient is simultaneously impelled to rational dealings and expressions partly by constraint, especially by the consequent advantages of freedom, enjoyments, friendly impressions, etc.[2] Such open uncompromising attack on the insane ideas in order to obtain violent mental diversion can scarcely be attempted in some cases of chronic mania, where there is a general feeling of well-being and an absence of all other disturbances; it is quite as fatiguing to the physician as to the patient, who should never have an opportunity to indulge in his insane ideas: suppression of the hallucinations or complete cure, by such means, we hold to be impossible.[3] The same may be said of the various and ingenious artifices and modes of surprise which have been employed to convince the patient of the falseness of his ideas: when they fail they actually injure the patient; he discovers the intention, or rather deceit; and if they succeed, they generally effect only an exchange of the insane ideas.

There are certainly examples of rapid improvement by the excitement of violent passions, of anger, fear, etc., in mental disease, perhaps most frequently in hypochondriasis. But apart from the circumstance that complete recovery does not result, such a system of treatment is extremely hazardous, and we may safely assume that for every case of improvement ten are made worse, many of which will proceed rapidly to a state of incurability.

§ 221. If possible, still more reprehensible than direct opposition is the so-called method of assent, sympathy with the delusion of the patient, whether it be with the view of temporary soothing, or possibly to employ what is conceded by the patient as a new means of removing his delusions. Such assent will only confirm the patient in his delusions; he may afterwards appeal to it; and from such a system of treatment, pursued with the best intentions, we often see the saddest results, especially in deep melancholic conditions, since the insane ideas which the patient till then, at least inwardly, opposed become rapidly confirmed.

Instead of logically arguing against the insane notions or confirming them by sympathy, in circumstances where a direct expression is required, these will be much better opposed by simple contradiction, a forbearing reference to the future, when the patient will be astonished at his delusions, an allusion to the past when he considered such things impossible. It is better, and generally more applicable, to leave the delusion as much as possible untouched, and thereby to weaken it by want of encouragement, by engaging the mind of the patient in matters that have no reference to the diseased ideas. This *mental diversion* is a fundamental principle in all psychical treatment, but as an active method is more adapted to chronic than to acute conditions; it is effected in different cases by very various means, which are suited to the case according as they are unresisted, as the aim of cure is concealed from the patient. Of these means, the most important is employment of a healthy kind (see p. 355); next to this stand all kinds of amusement, entertainment, conversation, which, with due regard to individual tastes, should always be judiciously selected, so that whatever tends to the delusion of the patient may be avoided, and that he may be always engaged as far as possible in a healthy subject of conversation. It is therefore necessary to avoid, not only all reference to the delusion, the circumstances that occasioned the disease, but also much direct conversation on his condition. The patient should be seldom left alone or unemployed; so long as he is employed with matters unconnected with his malady, he is in a great measure free from it, and by abstracting his attention from the insane ideas, they are most readily weakened and dispersed.

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[1] An exceptional case of this kind, a very interesting recovery by means of exhortation, may be found in Guislain, 'Leç. or.,' iii., p. 222.

[2] See Leuret, 'Du Traitement moral de la Folie,' Paris, 1840, and the later works of his followers; on the other hand, Blanche, 'De l'Etat actuel,' etc.

[3] This opinion, expressed in the first edition of this work, has since been confirmed. Many patients whom Leuret considered cured were subsequently taken up by other physicians as still insane, and no one has followed Leuret's mode of treatment. Nevertheless, his publication has done away with many prejudices, and the book is well worthy being read.

§ 222. Thereby, what is healthy in the patient will be strengthened and invigorated, and preserved from suppression and ruin. This is done by whatever promotes and upholds the ideas and sensations which characterize healthy life, and this is the principle of the rule, to lead the patient solely, or at all events, pre-eminently, in the direction of his former special interests. Again, it must be kept in mind that the same thing is not equally adapted to every patient. Here practical knowledge of mankind on the part of the physician must be exercised in discovering the character by the different modes of action of individuals, which are regulated by peculiarities in habits, tastes, and culture, and in finding out the sides from which he is susceptible. In women, attention is to be directed to other matters than in men; in some cases all healthy thought and action is inseparably connected with their ordinary employments and calling in life; the mechanic can often find only in his work, the musician only in the tones of his instrument discover, the whole range and unity of his former individuality. Quite as varied are the interests of disposition; the attempt, however, always proves unsuccessful to interest the patient in anything that has no foundation or support from the thoughts and pursuits of his previous life: to the thoughtless, for example, religious exhortation during his disease would be as useless as to force one who has no sense of harmony to engage himself with music. But the principle of carefully maintaining and strengthening the whole former personality is to be departed from where defects of character, by long control of the *ego*, have evidently tended to the formation of the disease. In cases which occasionally appear, where the insanity is the last result of a life of dissipation and folly, no recovery can be expected except by a complete change, the commencement of a new individuality. But it is well known, how scanty our means are of accomplishing this, how difficult such a restitution is, and how defective and always subject to relapse such cases are. Everything connected with the healthy bygone life—social attachments, the old modes of employment, etc.—serves to strengthen the *ego*, and the endless modifications of the means to be employed in promoting the healthy sphere of thought (correspondence, visits, etc.) must be left to the judgment and tact of the physician.

§ 223. Of moral remedies, proper employment of the patient seems to us the most important. In healthy work, the innate desire of expressing and giving vent to its energies finds fullest satisfaction in the objective world; by constant occupation in forming materials, the thoughts and efforts engross the mind and withdraw it from empty longings and illusions of the imaginations; the feeling of success again prepares the way for expansive sensations, and therewith self-esteem and confidence return. Therefore, a steady employment of the patient, especially when voluntary, is rightly considered a decided indication of improvement, and is frequently the commencement of recovery. Those employments are the best which keep the patient engaged in the open air, as all garden and field labor, which prove of great advantage not only to the lower ranks who have been accustomed to daily toil, but also to the educated classes, owing to the peaceful and soothing influences of immediate intercourse with nature. Where this is not practicable, household or mechanical modes of employment, chiefly of a light kind, may be substituted; and very few patients, and these only in alternation with physical exercise and muscular activity, should be engaged in sedentary and mental work. In chronic cases, the learning of a new and agreeable trade will sometimes engage the attention in a most beneficial way. Indigent patients should receive a small remuneration for their work during recovery; this has often proved a seasonable protection against want: the exertions of the affluent are devoted to the institution and the poorer inmates. Wherever his state of health will admit of it, the patient should work methodically. And while the patients are to be restrained from unsettled trials of all possible employments, every appearance of a manufactory, or regard merely to the pecuniary advantage of the institution, is still more to be avoided. Recovery or improvement of the patient should be the only object of work. Each inmate should be required to do only what is suitable to him, and only at the proper period, and indolence alone is to be strictly prohibited.

Work is evidently not adapted to acute states; in the exalted stage of the disease any enforcement to it must prove injurious: recent cerebral irritation demands perfect rest. This does not, however, imply that all mental excitement renders work impossible or injurious. In English asylums, where there is no restraint, many excited vociferous patients are put to work, for example, at the washing-tub, who, in many German asylums, would be confined in cells; and it is remarkable that they become sooner calm by the first method of treatment. But work is decidedly more advantageous in the quieter, especially protracted, states of insanity, in the period of transition to the secondary forms and in these forms themselves, and during convalescence where the desire for work is spontaneous.

§ 224. Closely related to physical employment stands a healthy engagement of the mental powers. In asylums "the school" is a means for this purpose suited to many of the patients. This is not intended to combat the insane ideas of the patient, or to demonstrate by philosophy the impracticability of his projects, but to withdraw his attention from the morbid ideas to matters which are interesting and useful. It is a useful means of awakening the mind and of imparting the elements of mental culture to patients who were previously ignorant. Like all employment which excites the brain, it ought never to be permitted in the acute stages, and in all other cases it should be continued only for a comparatively short time. The subjects of instruction are regulated according to age, sex, and education, and consist of elementary instruction in music, history, etc. It may be combined with recitation, and can with advantage be conducted on the principle of mutual instruction; the more educated patients assisting the uneducated, always remembering that teacher and method must be made attractive to the patient. Too much has frequently been anticipated from the influence of music; the sentiments provoked by it are too transient to oppose the duration of the morbid disposition, and it has no influence beyond other means of distraction, except when it is the decided choice of the patient. The practice of part-singing in asylums is to be commended as a means of amusement.

Besides, conversations, lectures, walks, games, tea-parties, etc., also serve to engross and amuse the patient. These are to be regulated as much as possible to suit the different dispositions.

Guislain has very properly declared himself against those promiscuous dancing parties so common in several English institutions, and which have been imitated in other countries. In a great German city the newspapers annually contain the announcement of a brilliant ball at the lunatic asylum, with the insulting intimation that the company was not disorderly.

Visits to the patients should always be under special surveillance, and the simply curious should be altogether excluded. In the early periods, and when the disease is still increasing, visits from the relations are ordinarily hurtful, partly by affording nourishment to the frequent aversion of the patient towards his relations, and recalling many irritating thoughts; partly by hindering the necessary habitude and resignation of the patient to his residence in the asylum, and exciting longings for home. On the contrary, when the patient is calm, and healthy desires are again awakened, visits contribute much towards his improvement and strength. In commencing convalescence, the patient often after a single visit quickly discovers his real condition, the nature of his disease, and his relation to the world.

§ 225. The aid of religion in the treatment of insanity is not to be lightly estimated; the application of this remedy requires, however, great caution. Religious instruction should not be withheld from any patient who desires and requires it; it would, however, oppose the first principles of mental treatment to enforce such instruction, or attempt to interest in it any one who has no religion at heart. It would show total ignorance of the nature and circumstances of these diseases to aim at direct recovery by reforming or converting the patient by religious instruction. All such means should only aim at imparting quietude, trust, and hope—to direct attention from the morbid representations to an earnest and remarkable theme—to revive the modes of thought and sensation of his healthy state. How far such ends should be attempted by these means can only be judged by the physician. He will never comply with the cruel and useless request, that, in addition to his self-tormenting misery, a melancholic patient should be subjected to severe penance, or that the timid and fearful be threatened with the torments of hell. Melancholics and maniacs, unless all excitement of this kind has ceased to influence them, confirmed maniacs, gladly seize all such representations to nourish their delirium. Should, however, the religious influence be exerted with the necessary circumspection—if only those phases of religion be presented which seasonably appeal to the feelings, and if the chaplain be judicious enough to have in view the single aim of the patient's recovery—regular religious services according to both creeds is highly beneficial, and we very often see the chaplain's visit, independently of what he says, proving of great advantage to the patients, owing to the necessity of their meeting together for some time.

Several medical psychologists would have the whole treatment of the insane to be specifically Christian. But Jews also require the aid of the alienist and his science, and there is no abstract, only a confessional Christianity. Therefore there would require to be a special Protestant, Catholic, etc., and again a Jewish, heathen, psychiatrie. Possibly even this may be yet desired.

§ 226. External means of restraint are employed with the view of preventing the patient from inflicting injury to himself or others, to prevent that rage and fury, especially such manifestations of his insane desires as would afford them new nourishment, and thereby to aid his self-control. Besides, they should serve to make him sensible of an external force against which his own exertions are powerless, to bend his will, and subdue obstinacy and a refractory spirit. The means employed should never be such as in the least to wound the self-esteem of the patient; they should never be suggestive of a house of correction (as chains and blows), neither should they shock the imagination, as did those great apparatus which were used till very recently in many places.[1] At the present day, the strait-jacket (which is of linen) is the principal means of restraint still in use; it allows to the patient little or no use of his arms and hands. In many asylums the constraint-chair is still used—an arm-chair in which the patient is confined; straps also to fasten him down in bed.

It was abuses which formerly were invariably connected with the employment of bodily restraint which, about twenty years ago, originated in England the opposite system, the total banishment of all means of mechanical restraint from the treatment of insanity. This method known as the system of non-restraint, first (1838) tried by Gardiner Hill in the Lincoln Asylum, was fully developed by Conolly in Hanwell in 1839, and within the last ten years has been adopted in nearly all English asylums. Its advantages have been as much praised as they have been disputed. The principal argument in favor of this system, is its greater humanity and its easier quieting of the patient, who is often rendered more irritable by mechanical coercion. It has been affirmed that the patient is thus more habituated to self-observation and control, that he is raised in his own esteem, and that by it arbitrary violence on the part of the attendants is rendered impossible. It is alleged that in those asylums where this method has been adopted the patients have been rendered calmer, more submissive and cheerful, and the recoveries more numerous and permanent. In occasional rare cases of necessity, the use of mechanical means is nevertheless conceded (Conolly).

On the other hand, it is argued that it is an excess of philanthropy to consider it an act of inhumanity to confine a lunatic with the strait-jacket; that mechanical restraint alone is capable, in certain cases, of rendering them submissive to the authority of the physician, and harmless to themselves and others; that the use of these means allows the patient himself more freedom, especially to move in the open air; that without them a disproportionately large staff of attendants is necessary; that a personal control is more irritating than mechanical means; that some patients, when they feel a paroxysm of madness coming on, even desire mechanical restraint, especially, however, in occasional cases of suicidal tendency (there being no other means of control); and lastly, that the seclusion which is employed in the system of non-restraint is equally mechanical coercion under a different but not improved form.

In taking a retrospect of these arguments for and against, we can easily understand how the value of the system of non-restraint was so long questioned, and how the arguments against it appeared to keep the ascendancy. But if we consider that these objections proceeded entirely from those who had not practically tested the system of non-restraint, and had never even witnessed it, their force will not appear so great. If we interrogate experience, which is the only proper test, we shall find that during the last ten years all doubts in reference to it have been removed. The question is now decided entirely in favor of non-restraint. This great reform is now carried out with the móst favorable results in every public asylum in England, and the name of Conolly will always be mentioned with that of Pinel, whose work he has completed.

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[1] For an enumeration of these, see Schneider's 'Heilmittellehre gegen psychische Krankheiten,' Tübingen, 1824.

The exact method of this system is by many, however, not properly understood. It consists of an entire setting aside of all mechanical means of restraint, and the substitution of other means of quieting and watching the patient. The new system is therefore a positive treatment, not a mere leaving of the patient to himself; still less, as has recently been unjustly asserted, is it the supplying the place of mechanical restraint by coercion, by seclusion, or restraint by the hands of attendants.[1] The system of repressing the manifestations of the disease by mechanical restraint and violence is exchanged for a mild system of treatment, which, in the majority of cases, can avert those manifestations; where this, however, does not succeed, some other means, conciliatory or simply quieting, is devised to meet the case. If, then, it should be asked what in these asylums is put in the place of mechanical restraint, which was hitherto indispensable? we have only to say, that according to indisputable evidence, in the asylums where there is no restraint and, at the same time, good dietetic and therapeutic treatment, the cases which appeared to demand restraint have steadily and remarkably diminished; that there are rarely seen any of those cases of continued and violent mania which are still treated in many places by means of prolonged seclusion, the use of the strait-jacket, or the constraint-chair. Should, however, violent excitement present itself, we seek, by means suited to each particular case, to distract the patient's attention from the object of his delirium, to calm and to divert him; he is removed from the locality where his agitation commenced, and, if necessary, isolated for a short time (two to four hours, often less) in a chamber where he is secure against self-injury, or confined in an inclosed court. In all communication with an excited patient the greatest forbearance and gentleness must be exercised, and everything which has the least appearance of violence, or could in any way irritate him, ought to be avoided. This system, which is so much to be preferred to the old mode of coercion still practised in many places, can naturally only be carried out in an institution so organized as to meet its demands; the attendants must be sufficiently numerous, intelligent, active, and good-natured, and all must be under the constant surveillance of a physician who takes great interest in the subject, and is of a patient and benevolent disposition.

In certain rare and exceptional cases (such as sudden protection against a dangerous lunatic, surgical cases, etc.) Conolly himself admits the possibility of the necessity of employing (for as short a time as possible) mechanical restraint: this is totally different from its employment as a means of regular treatment of the insane. In all the cases where formerly force appeared indispensable, even in those with a tendency to suicide, experience has proved the entire abolition of all such means, and their substitution by milder measures which act upon the disposition of the patient, to be in every way more suitable.

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[1] With regret I find this opinion, so fundamentally false, even in Neuman, Psychiatrie,' p. 86. The ardor with which the author defends the strait-jacket should not have led him to such incorrect expressions.

Up to the time of the publication of the first edition of this work, I allowed myself, influenced by the adverse opinions of the German psychologists, to oppose the system of non-restraint; although at heart I sympathized with the reforms, yet I could not see my way clear to refute the contrary arguments which were advanced. Since then practical experience, from the one end of England to the other, has done so. I have seen the new system carried out in several of the large English institutions, and have been convinced. Indeed, in one of the institutions containing about 1,000 patients, I saw a bloody nose and heard the crash of broken glass, but I have remarked the same in asylums where the strait-jacket and constraint-chair were in daily use. I have seen with happy astonishment how easily several patients on the point of an outbreak were rendered speedily calm through a kind of psychical diversion, who to a certainty, in the majority of Continental institutions, would at once have had means of restraint applied. Let us hear no more of impossibility! In Hanwell, with a population which has gradually increased till now it reaches about 1,000, for twenty-one years there has not been a hand or foot bound either by night or by day. Colney Hatch, a very large asylum (1,200 patients) was opened in 1849, and never to this day has any means of restraint been employed; Bedlam and St. Luke's which are specially devoted to acute cases, have, to the great benefit of these institutions, long ago embraced the system of non-restraint, and not one of the asylums in which the new system has been introduced has reverted to the old treatment. Nor let it be said that in the system of non-restraint confinement in a cell is "also restraint," a substitute for the strait-jacket. Amongst 5–6,000 patients in a number of English asylums, Morel found (l. c., p. 55) only three in cells, and in these cases the periods of confinement were short. Compare with this the numbers who are confined in cells—many with strait-jackets, and others actually reconciled to their sojourn through its long continuance—in some of our Continental asylums where non-restraint seems to be regarded as a mere chimera. And let it no more be repeated that such a system is suited only to the English, who submit more easily to control than the patients on the Continent. Before the time of Conolly it was believed in England also that it was impossible to treat the insane without powerful means of restraint; even as recently as 1843, in Bedlam and St. Luke's the patients were, owing to their presumed ferocity, fastened in rows to the walls. Neither let it be said that the use of means of restraint is good, and that only the abuse is blameable. No one can say where the use ends and the abuse begins; indeed, it would appear that the abuse is unavoidable, and a very experienced physician has said "restraint is synonymous with neglect" (Conolly).

Let us then pursue with confidence the new system, fearlessly break off the old customs and assume the new responsibilities, ever remembering that the least negligence will re-open the gates to the employment of violence. This is, however, a more difficult task than to amuse the public with pleasing descriptions of Christmas presents at asylums where the wretched constraint-chair still flourishes. The example of the perseverance with which the English physicians have carried out the new principles is encouraging, and still more so are the results. If we quietly begin to inquire how many patients have been really benefited by means of restraint, we will be led to ask ourselves whether the arguments against non-restraint are not the same which, seventy years ago, were advanced against the first removal of the coarse and barbarous fetters by Pinel. At all events, let every one keep a register in which each instance of the employment of restraint is entered, with the cause, nature, duration, and effect, and inquire at the end of the year what it has effected for the cure and improvement of the patients, and how far it has justified the confidence reposed in it. We doubt not that ere long, in every new institution, with the very foundation-stone the assurance will be laid, that for all time coming the system of restraint is excluded. For the literature on this subject, see Conolly, 'On the Treatment of the Insane without Mechanical Restraint;' Dick, 'Zeitschr. f. Psych.,' xiv., 1856, p. 353; Morel, 'Le Non-restraint,' Paris, 1861.

SECTION IV.—*Various Modifications of Treatment.*

§ 227. The means hitherto discussed must be essentially modified on their application, according to the particular form of insanity, from which the patient suffers; the mental and physical treatment have again to be modified as well by differences of individuality as by differences of form, by the presence of other bodily diseases which may be the same in all forms, and especially according to the differences of social status, disposition, and mental character. For the last-mentioned particular no general rules can be established. In the treatment of the different stages of insanity, and particularly at the commencement, the necessity of prompt and early interference must again be insisted on. First, by a careful and minute observation of the patient the diagnosis is to be certainly established. Where the first indications are moderate, it may happen that only a probable diagnosis can be made, which, however, can be further supported by evidence of the existence of hereditary disposition, of certain causes having been at work, etc. Always avoiding any gross error, such as confounding typhus fever with insanity, it is a judicious course for the patient where there is strong presumption of it to treat him as if he were insane, as from this course no injury, but probable benefit, can ensue. For at this period the chief treatment is confined to avoiding all causes of the disease, and to careful dietary arrangements suited to his case.

It is here that physical treatment is most extensively employed: as to moral treatment, the patient is to be guarded against too eagerly engaging himself with adverse circumstances, which increase his ill-humor; from all exciting argument, all urgent exhortation or religious discussion. On the other hand, his mental pain, as far as possible, is allayed by distracting his attention by other subjects, by directing it to the sphere of his accustomed duties, or to mild, cheering external influences: and his sinking hopes are to be strengthened by moderate and benevolent encouragement. The patient should not be allowed to discover that any doubt is entertained regarding his mental health, that he is directly observed; nor should he be urgently questioned regarding the reasons of his change, which would cause him to be distrustful and inclined to dissimulate; he should be as little as possible left alone. It is sometimes, however, advantageous to observe him when he thinks himself alone and unnoticed, as then he often gives way to soliloquy and gesticulation. Wherever the general health permits, he should not be altogether idle—a suitable employment should be chosen for him; but all mental exertion is to be entirely avoided, and frequently the first step in treatment is the entire cessation of the previous occupation.

The patient should in every instance be withdrawn from the baneful influences which have hitherto been at work, and conducted to others which are new and beneficial. In order to arrive at this, a total change of all the external relations is frequently necessary; very beneficial results are often obtained by change of scene, short excursions, if possible, on foot, and, if the circumstances permit, a residence at some carefully selected watering-place—never in great cities, where the brain and senses of the patient may be excited. All exciting amusements—the theatre, music parties, and the various "pleasures" that one might be tempted to permit—can only do injury. The patient, above all, requires prevention of violent impressions of contact with those who are not acquainted with the nature of his malady, and *quiet* and *stillness*. The success or nonsuccess of these rules depends very much on the degree of patience and perseverance with which they are carried out, on the external conditions of the patient, and on those who surround him; and the aid of an intelligent woman is often valuable. The physician must counteract the error, so frequently committed by relations, of considering the mental anomaly as if it depended upon waywardness and dissimulation; he must kindly yet decidedly acquaint them with the danger in which the patient stands, and the necessity of immediate interference; he must not accept any excuse when he observes that his instructions are not implicitly attended to.

Moreover, a regulated diet, exclusion of all alcoholics, abundant outdoor exercise, refreshing sleep, and a healthy maintenance of all the secretions, must be seen to. All symptoms of acute or chronic disease in other parts (menstruation, heart-disease, diseases of the bowels, etc.) must be carefully watched, and anything that could determine or maintain hyperæmia or irritation of the brain must be unremittingly and attentively treated. Although it be true that all treatment having a specially weakening effect is to be avoided, yet it is in this, the stage of commencement, when the disease is acute, that well-directed blood-letting, if specially indicated, can have the best results.

Treatment by mineral waters at the commencement of insanity, especially by slightly laxative waters, as Marienbad, Kissingen, etc., is, to say the least, useless. Systematic hydropathic treatment is generally still more injurious; tepid thermal baths, if the change be in other respects beneficial, may have a calmative effect upon certain patients. The nutrition must be improved, in some cases, directly, by means of stimulating nourishment—iron, cod-liver oil, or by a lighter diet, as milk; in others, indirectly, by improvement of the digestion and sleep. All states of congestion must be opposed (cold applications, sinapisms, cooling remedies, leeches, etc.); the excretions maintained, nervous agitation calmed, and, if possible, sleep reinduced (baths, opium, aq. lauro-cerasi, digitalis, etc.). Removal to a quiet country residence, together with a simple mode of life, does good in many instances. Moderate exercise, long-continued rest of the body (so that the greater part of the day is spent in bed—the remainder, if possible, quietly in the open air), or constant rest, should be prescribed according to the case.[1]

§ 228. When the commencement of the disease is sudden, and its outbreak violent, we should not, merely to calm for a time the most striking symptoms, be induced to adopt thoughtlessly the use of means which might exert an injurious influence upon the subsequent course of the disease (for example, profuse bleeding, tartar emetic in large doses). In such cases there should only be added to the treatment previously mentioned, complete isolation of the patient, who can no longer mix with the world.

In melancholia, all attempts to repress the mental pain with questions and exhortations should be avoided. The patients should be spoken to as little as possible about their own condition, and not at all regarding the object of their delirium; they should not be permitted to make many complaints, and a somewhat strict system of treatment, which may occasionally even have the appearance of severity, is often of more service than words of consolation. The stronger patients should rise regularly in the morning, do some work, take a walk, etc.; those who are weakly, especially females, and patients with weak, irritable action of heart, and dry, cold skin, may be permitted to lie long in bed; their harmless wishes are to be attentively fulfilled, every healthy feeling encouraged, and only what is morbid resisted. When great anxiety and restlessness appear, especially in the agitated form of melancholia, all active repression is objectionable; it is best treated by regulated exercise in the open air, the use of baths, etc. In these cases, the remedies that are employed in intestinal catarrh, and occasionally emetics, are of service—more frequently the milder laxatives, which may sometimes be combined with bitters. In many cases, digitalis, tonics, quinine, are indicated—exceptionally a little wine; above all, however, opium in large doses (see p. 346). In melancholia with stupor, drastic cathartics, and strong external irritants—vesicatories, tartar-emetic ointment—are often useful; the bodily strength is to be improved by means of good nourishment.

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[1] See Erlenmeyer, "How are Mental Diseases to be treated at their commencement?" Neuwied, 1861; Guntz, "How are Mental Diseases," etc., 'Arch. der Gesells. f. Psych.,' iii., 1, 1860, p. 1.

In mania, the removal of the patient from former scenes is always indispensable. The maniac who has forgotten all ideas of order and of healthy life, and who may become very dangerous, and the monomaniac who, through the opposition with which his extravagant undertakings and eccentric demands are met, becomes soon exasperated, can only be tolerated in an asylum, and, above all, can only be treated there. Nothing is more injurious to them than uncontrolled freedom, which constantly increases the malady; while the rest and quietness of the asylum, with its restraining influences, have in many an immediate beneficial effect. Even there, unruly patients generally require to be isolated, it may be for only a short time. Some require complete rest and quietness—in rare cases the withdrawal of light; many are soonest rendered quiet by being allowed free vent to their humor in large protected rooms, or better in the open air. Moreover, the outward excitement should not be immediately opposed by means of restraint, and quite as little by exhortations and counsels. It is best to allow such patients to speak and to cry unheeded; and the outbreaks of temper should only, when of a dangerous nature, or where they might originate new internal excitation, be restricted by mental diversion or isolation, which should be carried out promptly, without any talking or struggling. Everything not positively injurious may be granted to the patients; but we should not give in to extravagant demands, and not show ourselves too indulgent to the morbid wishes. In occasional cases, indeed, especially if we may presume from former attacks that the mood will only last for a short time, it is often better to satisfy even unnecessary demands. Uproarious, disobedient patients, even though highly refined, must be subdued at any price; indulgence only increases their demands, and awakens the idea that they can impose upon the physician. Where there seems to be sufficient mind, we may say to the patient that he is ill, and call his attention to the anomaly of his acts and pursuits; where possible, the patient should be exhorted to a proper demeanor, and after a time put to some employment. Such patients should be allowed to drink a great deal—to use baths in the manner described. Leeches and cupping may be employed when necessary; also digitalis, cooling medicines, and slight aperients; very seldom (except in delirium tremens) should narcotics be given. Cutaneous irritants seldom do good in acute cases. In general, it is necessary in these cases to guard against doing too much, remembering that outward quiet is not the sole aim of treatment, and that the nutrition is to be maintained as much as possible.

There is no specific treatment for puerperal mania, although such has been often recommended. Each case must be treated according to the form it presents. The chief consideration is always whether any other (always feverish) puerperal disturbance be present (see p. 145): if so, it is the principal object of treatment; if not, if the cerebral affection does not depend upon other disease, then all violent measures, especially bloodletting, cathartics, cutaneous irritants, are, as a rule, wholly to be avoided, and, on the contrary, nourishing diet, keeping the bowels gently open, and quieting the excitement by means of baths and opium, are, in the majority of cases, the chief means of treatment. In cases where there is considerable anæmia, small quantities of alcohol may be advantageously given; in other cases, digitalis, camphor, and quinine are useful. The same remarks apply to the treatment of hysterical mania. Where there is acute delirium (see p. 212), cold affusion in a tepid bath often does good; a rapid sinking of the nutrition in this form demands particular attention.

It is difficult to define more precisely the rules of treatment in the degenerate chronic forms of mania and melancholia which pass into dementia. Each case must be individually considered and the therapeutical and moral treatment cannot be too early commenced. All marked changes in the bodily health are to be carefully watched, as they sometimes favorably modify the insanity. The great point, however, is to re-excite the spontaneity of the patient. This may be sometimes brought about by a complete change of the external relation's, as removal to another asylum, or temporary discharge by way of trial. That system of treatment which attempts to bring about this result by violent repression of all morbid manifestations, and forcing the patient to healthy acts and desires, has not been justified by its results.

In fully developed systematic mania, and in dementia, treatment is restricted to protection of the patient, by work, strict discipline, order, and cleanliness, from deeper mental and bodily degradation, and to rendering his existence as comfortable as possible by benevolent treatment, and by allowing him all the enjoyments he may desire, and which his state permits us to accord.

For paralytic dementia there is no therapeutical treatment. Several observers, however, state that they have seen benefit result from the use of the actual cautery; others, from methodical and long-continued application of cupping-glasses—dry, or with the abstraction of only a small amount of blood—to the nucha, from strict diet (in some cases milk diet), evacuants, iodide of potassium, the mineral acids, etc. As the disease advances, the utmost cleanliness (but to the total exclusion of baths) is to be seen to; well-chosen nourishing diet, consisting towards the end of semifluid elements; above all, pure air, the patient being as much as possible in the open air; and, in short, the same attention is required which is necessary in the earliest years of childhood—anything that can prolong life and make it more supportable.

The treatment of the various states of idiocy, whether congenital or occurring in early years, if recovery (which is extremely rare) or simple improvement be aimed at, must be commenced in the years of childhood. Adult idiots and cretins can only be subjects of care and protection. To arrive at real results, the treatment must be begun at the earliest possible age. By active and proper means commenced during the second or third years of life, there is reason to believe that results may be obtained such as we have at present no idea of. At this age, the first step necessary is removal of the child beyond reach of the influences (p. 251–276) of causation (when the causes are miasmatic, removal to another and healthy locality—not necessarily to a high mountain); and, in the second place, to see to the proper regulation of the rearing of the child, the strengthening of his physical powers, and to a mild, gradual, and methodical excitation and elevation of his senses and dispositions. Special cases (syphilis, rickets, etc.) require the treatment special to these maladies. Epileptic conditions are, if possible, to be treated according to their causes, or, secondly, by atropine (in the epilepsy of children this often produces most rapid results), oxide of zinc, etc. But, in the majority of cases, the treatment, especially that of the asylums, is not commenced until a much later period—at an age when the object would rather be to render the stunted remains of the mental faculties capable of performing their function, than to attempt to cure or even improve the morbid state of the brain. The object, therefore, is more that of education. In this, experience teaches that even at a more advanced age (from five to ten years) the education depends altogether upon a healthy development of the body. We should, therefore, with all our energy try to strengthen the constitution, improve the nutrition, institute a feeling of bodily well-being and comfort (nutritious food, exercise in the open air, baths, cold sponging, cod-liver oil, iron, etc.). It is not so much by methodical instruction (lectures, reading, learning, etc.), which has a gently stimulating effect upon the brain, as by illustration, simple employments, the relating of interesting narratives which awaken the attention—by well-regulated practical exercise and games, which render the sensorial impressions more correct—that the formation of proper though simple ideas is to be promoted. Of what use is it to bring up learned idiots who know the whole A B C, but stumble before every little obstruction that comes in their way? Agricultual employment would be well adapted for most of the lighter cases, but it is very difficult to obtain it. Music exerts a favorable influence upon many; constant repetition is a means whereby, even in the most serious cases, improvement of certain phases of the mental life is occasionally obtained; but with these children all discipline and punishment is worse than useless—any improvement is only to be obtained by kind and benevolent treatment. The sociability of the asylum is very beneficial and improving for most of the more slightly affected children.

I must here restrict myself to these few aphorisms; further details will be found in the works mentioned in page 273, and in the writings of Voisin and Rösch, Erlenmeyer, Georgens and Deinhardt.

§ 229. When hallucinations are present, the organ of sense to which they refer should be minutely examined; if necessary, the ears can be syringed, and the attempt made to remove any sensorial irritation by means of leeches, derivatives, Daturia stramonium, etc.

Should the patient refuse his food, the mouth is the first place to be carefully examined, as refusal of food is sometimes caused by inflammation of the buccal mucous membrane, cynanche, etc. If nothing of this kind is discovered, we then attempt to turn the patient from his resolution, not by argument, but by placing before him choice food when he is alone and silently taking it away again, or by putting him where he may see others eat. Should this not be speedily successful, we quietly proceed, after a short exhortation, to the use of artificial alimentation, by forcing him to swallow food while holding his nose, or, should he still resist, by employing the œsophageal sound. When food has been for a long time refused, stimulating fluids, such as wine, should not be given at first, but mild substances, as milk, beef-tea, etc.

Since the publication of the first edition of this work, numerous experiences of the treatment of refusal of food have been communicated; they all revert to the long-tried mode of artificial alimentation. It is strongly to be recommended that no time be wasted with the employment of all sorts of medicaments (even the preparations of copper have been recommended!), douches, etc. Many instruments more or less complicated have been devised for artificial feeding; as Leuret's double œsophageal sound, of sheep-gut; the instruments of Belhomme (1850), Blanchi, Baillarger, etc. A simple elastic sound introduced through the nose is the best of all: the patient is held in an oblique position, the head fixed and a little bent upon the chest while the sound is being introduced. Fluids are injected through the sound; they ought previously to be strained, always lukewarm—milk, beef-tea with eggs, thin soup, etc.—and always injected a little at a time, with some fresh water between. Most of those patients ought to lie in bed all day, and be kept warm. Baths are often very beneficial. Nutrient enemata of preparations of beef and eggs, which have been prepared by digestion with pepsin and a little salt, or only of strong beef-tea, may frequently be used. Cases of prolonged alimentation by the sound are recorded (two years and fifty days) in a case of melancholia in the Turin Asylum communicated by Zeluschi; Bell narrates a case in an American asylum of two years' nourishment. Should we not be able at once to introduce the sound, the object may be gained by simple pouring through the nose; injecting is not necessary. A peculiar method has been tried in the asylum at Vienna—that of opening the mouth by electricity, a method which allows feeding with solid food. In very excited patients, chloroform may be tried, and food given while the patient is under its influence.

The habit of masturbation is very difficult radically to suppress: and besides, recovery scarcely ever takes place during its continuance. Mechanical contrivances rarely succeed in their object: this is better attained by minute surveillance of the patients, who should never be left alone; by work or walking, even to fatigue—light diet, cold bathing, a hard bed, and, in some cases, by the utmost strictness. The causes of the habit may require to be treated by therapeutical means; ascarides are to be kept in view; the iodides, from which some good results have been obtained, may be given where the sexual irritation is produced by chronic irritation or inflammation of the urethra; lupuline in considerable doses (gr. iv. three times a day) and bromide of potassium may sometimes be employed.

Those patients who have a tendency to suicide require to be carefully watched. The inclination can rarely be subdued by medicinal treatment, and usually our means are limited to constant personal surveillance, the removal of all implements, cords, etc.; and our attention ought to be the more unremitting if the patient exhibits much cunning. Such patients often accomplish their object in a single unguarded moment—indeed, in the very presence of attendants; for example, by strangulation in bed. Experience has shown that mechanical means of restraint will not in the least diminish the tendency to suicide, even though it should succeed in rendering its accomplishment impossible for a time; but sometimes it does not even succeed in this. I myself have seen a patient who strangled himself when wearing a strait-jacket.

Before dangerous, and especially armed patients, we ought to show undisturbed self-possession; there is frequently a concealed feeling of anxiety behind the furious agitation, and the remains of a knowledge of right from wrong which comes to the aid of the courageous. They are generally more easily disarmed by artifice than by force, and cases are on record where by feminine cunning the knife was playfully wrested from the hand of the madman.

A young man who had been tranquil for several months, was suddenly seized with an attack of mania. He ran to the kitchen and took away an instrument used for chopping vegetables. He resisted those persons who wished to lay hold of him, sprang upon a table and threatened to strike on the head any one who dared to approach. The wife of Superintendent Pussin loudly called to the people that they were preventing the patient from working with her, requested him gently to come near, and showed him how to use the instrument. At this moment the people laid hold of him and took away his weapon. (Reil, etc.)

Several patients were quarreling in a garden: one of them seized a knife and threatened to murder his comrades. Lady Ellis arrived, and said to him that she was much surprised to see that a man of his understanding and strength could so far forget himself as to quarrel with a patient, and one who was known to have been mad for years. These words flattered his self-esteem. "You are right," he replied, "I will pay no more attention to these men," and became immediately calm. (Ellis, etc.)

A very strong, violent patient had found opportunity to possess himself of an iron bar three feet long, and threatened to murder all who came near him. Attendants and patients fled, and he was left alone in the gallery, no one daring to approach. After a little while I entered alone: balancing the key of the door upon the back of my hand, I advanced very slowly towards him, attentively observing what excited his attention. He came up to me, and asked me what I was doing. I replied that I was trying to balance the key, and added that he could not do the same with the iron bar. He tried it in vain, stretched out his hand and placed the bar of iron upon it; I then took it quietly from him without any further notice. Although it appeared to be disagreeable to him to find himself disarmed, he made no attempt to take back his weapon, and a few minutes afterwards all traces of excitement were gone. (Ellis, 'Traité,' p. 311.)

§ 230. The period of convalescence still requires much care and supervision. The convalescent remains often for a long time in a very weak and irritable state of mind. The last traces of the false ideas are often long in commencing to disappear, and it is frequently necessary to continue the physical treatment for a long time. The patient should not, therefore, be allowed to leave the asylum till the mental and bodily health is as far as possible consolidated, generally not earlier than several months after the first symptoms of recovery; and the discharge should, as is now the practice in many public asylums, be at first always provisional, so that the patient, on threatened or actual relapse, may be readmitted into the asylum without trouble or delay.

Should great relaxation and debility come on during convalescence, it should not be treated by stimulating means; quietness, suitable diet, open air exercise, and gradual resumption of employment, are to be promoted. The patient is to be allowed greater liberty and intercourse with the world according as the desire and the capacities for it increase. He should be habituated to a suitable occupation, and placed in a pleasant neighborhood; all that would excite him should be avoided, or accompanied by judicious encouragement. He should be distinctly told of his malady. Courage and self-confidence should be raised within him, through the exercise of his faculties, the example of others, and also through the consolations of religion. Counsel as to future modes of life, suitable employment, and to all that can protect him from a return of the disease, are now applicable. In certain cases, amusement, travel, or residence at a watering place might prove beneficial; in others, a speedy return to the narrow sphere of their calling and their family circle is the only means by which recovery can be completed. Many go from the asylum to their homes more reasonable than they ever were before: would it were but possible to keep those thankful and joyful, and frequently mentally strengthened (recovered), patients from the influences of adverse circumstances—the coldness of those by whom they are surrounded, and even from the raillery of low-thinking men!

SECTION V.—*Lunatic Asylums.*

§ 231. In former times, the leading object of treatment in mental disease was generally quite unknown. With no purpose beyond the preservation of public order, and the aversion of the danger that might arise to the sane from the uncontrolled roaming of such as were mentally deranged, some were confined in hospitals, others in penitentiaries and workhouses, and generally in the most wretched and concealed apartments. To treat them as patients was a thing unthought of; the great aim was to render them harmless (a method adopted from a mistaken notion of their excessive bodily strength). This was effected by the roughest measures: the poor, unfortunate creatures, often oppressed with chains, pined away, behind massive beams and iron bars, in wretchedness and filth; in the sufferance of tortures and lashes such as it was their lot to endure, the remaining traces of humanity could not but disappear. Whoever once crossed the threshold of an asylum was considered lost. This was the fate of the insane in many places until very recently. Even so lately as 1833–34 in some provincial towns of France they were confined in prisons; in several English institutions, entire rows of them might have been seen in chains; and even to the present day, in a few remote districts, their apartments are coarse, stall-like inclosures of the strongest and roughest construction, before which vacant curiosity stands to irritate the madman by a mockery of his curses. [Query, Where?—TRANSL.]

In the middle of last century was erected the first institution whose avowed object was the cure of insanity—St. Luke's in London, long the only example of active humane feeling for the insane. This was followed by the erection of an asylum at York for the reception of Quakers who were mentally diseased. Upon the Continent, Pinel was the first who resolved to interest himself in the condition of the insane. Impelled by the great humanitarian idea of his time, he began his efforts even during the troublous times of the Revolution. At first, not without danger to his own life, he devised, before the very gates of Paris, in Bicêtre, his great and happy reforms by freeing the insane from their fetters.[1] Pinel's endeavors were an example, and gave the impulse to a complete renovation of the treatment of insanity. The merit of this reform in Germany belongs pre-eminently to Langermann, about the beginning of the present century. The revolution in opinions upon this subject was even then so marked, the acknowledgment of the curability and incurability of insanity was then so widespread, that he was at once enabled practically and energetically to insist on the erection of special institutions for the cure of insanity; and on their complete separation from establishments devoted to incurables. The first German hospital in which the new theory was carried out and practically accomplished was the Sonnenstein, in Saxony, under the superintendence of Pienitz; side by side with which stand, as asylums for incurables, first, Waldheim, and, latterly, Colditz. These first successful essays in asylum concerns were gradually followed in Germany either by the new erection or complete re-modelling of the public asylums in Schleswig (1820), Sieburg (1825), Heidelberg (1826), Prague (1826), Hildesheim (1827), Leubus in Silesia (1830), Hall in Tyrol (1830), Sachsenberg in Mecklenburg-Schwerin (1830), Winnenthal and Zweifalten in Würtemburg (1834), Marsberg in Westphalia (1835), Illenau in Baden (1842), Halle (1844), Erlangen (1846), Eichenberg in Nassau (1849). Many smaller or less known also followed the example, and are still doing so. The erection of new and well-organized asylums is thus constantly progressing, and even these places that were hitherto delaying as long as possible, appear at last to have made a beginning towards the fulfilment of a requirement demanded of all civilized countries. Among those which have been erected within the last ten years in Germany, and are particularly worthy of mention, are those at Vienna (1853), Werneck in Frankonia (1855), Klingenmünster in the Pfalz (1858), Münich (1859).

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[1] Pinel, in directing his efforts with all his attention to the amelioration of the condition of the insane, first devoted them to those who had been confined at the instigation of the public authorities. In consequence of this interference, he was stigmatized as a moderate and an aristocrat—names which at that time were almost synonymous with sentence of death. Undeterred by this, he presented himself before the Town Council of Paris, and with renewed energy solicited them to sanction his reform. "Citizen," said Couthon to him, "I shall meet you to-morrow at Bicêtre, and woe betide you if you have deceived us, and if under the names of fools you have concealed the enemies of the people!" Accordingly, Couthon made his appearance; but the cries and howls of the madmen when he at first attempted to interrogate some of them were too much for him, and he said to Pinel, "O citizen, art thou thyself a fool, that thou wouldst liberate such animals? Do with them what thou wilt, but I am much afraid that thou wilt become the victim of thy rashness." Nevertheless, the same day Pinel began his task and struck off the chains from a number of patients. See the narrative taken from Pinel's own diary, and published by his son, 'Mémoires de l'Acad. Roy. de Médecine,' tome v., Par., 1836.

With the erection of such efficient institutions, the therapeutics of insanity have in most countries, within the last forty years, made the most extraordinary progress. Thus, in Germany, where theoretical psychology was almost entirely devoted to the discussion of abstruse questions (whether insanity is the result of sinfulness? whether in insanity the body or the soul is diseased? etc.), practical efforts have almost in a single season been made the chief regulators of asylum practice, and that with the best results; and in this matter, Jacobi's exertions to introduce the English practice into Germany have had an unprecedented and most beneficial effect. The literary treatment of these practical questions soon became in the highest degree irksome, in consequence of the extraordinary pedantry with which all the minutiæ of the asylum were canvassed, as if these were primary questions. Thus, the interest was in a great measure diverted from really weighty points in psychology in order to settle these comparative trifles. Much, however, can be excused at this time, owing to the novelty of the subject; and we must always thankfully acknowledge the exertions by which, in so short a time, results so remarkable were effected. Even this paltry, insipid devotion to trifles appears to do good, in spite of the bombast with which they have been recently asserted and oracularly promulgated. Notwithstanding, in Germany, till within a short time ago, there was, and even yet there is, much remaining to be done. In proof of this I shall only cite one example. An account of an excursion by Willing in the year 1856 contains the following ('Ztschr. f. Psych.,' xiii., p. 84):—"In —— the noisy patients are confined in cells; the cells for the men and women adjoin one another, and only through a grating can a patient be communicated with. The quiet patients employ themselves, the men and women associating together."

§ 232. From the commencement of the reforms, the conviction gained root, especially in Germany, that the first condition of success in treatment was the separation of the curable from the incurable insane. Indeed, the mixing of the recent cases with incurables, with epileptics and cretins, proved perfectly ruinous: the very sight of these creatures, so demoralized, exerted an influence upon the former in the highest degree injurious. Besides, the two classes of insane require for their treatment and protection arrangements differing in many particulars, and, naturally, the space of the asylum would by such mingling become so much occupied with incurables, that it could no longer receive recent and curable cases. Whilst in certain foreign asylums—as, for example, Salpêtrière—different departments of the same institution have for a long time been set apart, the one for cases requiring active treatment, and the other for such as had become quite chronic; in Germany, and occasionally in England, another principle has been adopted—the erection of special institutions, quite separate, for curable cases and for incurables (Sonnenstein, Siegburg, Leubus, Winnenthal, etc.). Various reasons led to this arrangement of special hospitals for treatment and asylums for incurables. It was the wish to bring into practice the new attempts at reform in asylum concerns, which were associated with much expense, at first only for those of the insane who were considered curable; new asylums were therefore built for those, while the old institutions, which had been found quite inefficient for the carrying out of attempts at cure, were, with a few alterations, converted into asylums for incurables. It was soon understood that the organization of asylums for incurables must, in many points, be essentially different from hospitals for the *treatment* of recent cases, inasmuch as we have to consider that in the former case nearly all have to remain during their entire subsequent lives, while in the latter their residence is but temporary; and, further, it was a decisive blow to strong wide-spread prejudice when, long before public acknowledgment of the curability of insanity, special hospitals were erected where an average proportion of rapid recoveries were effected.

There was every reason to be satisfied with the general result of this system where the number of inmates in the institution for treatment and in the asylum for chronic cases were suitably proportioned, where each enjoyed an equal amount of the fostering care of the State, and where there existed for both a certain unity in the higher superintendence. So far as we are aware, it was not on account of any deficiency in this system in relation to the treatment and guardianship of the insane which led, at a later date, to its expediency being called in question, and the curable and the incurable being again united under one roof. External motives, the results of theoretical advocacy and numerous practical attempts appear to us to have effected this reunion.

§ 233. When, about twenty years ago, it began to be considered a requisite that asylums should be new and specially erected institutions, in many countries men hesitated at a prospect so expensive as the erection of several large establishments, with their complicated arrangements and increased medical superintendence. They could not, however, return to the former system of mingling all the insane, the alienists insisting on the complete separation of the curables from the incurables. So the plan was formed, and in several cases carried out, of constructing two separate establishments, each complete in itself, but situated within the same grounds, under the same medical superintendence, and having in common many economical arrangements (chapel, storehouses, kitchen, baths, etc.). Thus the great so-called "relativ verbundenen" asylum system is not, as they would have us believe in Berlin, the project of Hegel's logic, though certainly he was a strong advocate of it, and that in a manner worthy of consideration.

It might be said in favor of this system, that where new buildings have to be erected, it is less costly, because, as remarked above, many buildings and arrangements being common, one set only is required for both institutions; many patients being united under one management, fewer officials are required; and as such an asylum can sooner maintain itself by the produce of its own labor—which is chiefly from the inmates of the incurable institution—it is less expensive to the State. As further reasons for such union, it has been urged that the boundary between curability and incurability is in the highest degree fluctuating and uncertain; that in "relativ verbundenen" institutions the patient is observed by the same physician in every stage of his disease to its termination; that the admission of patients, not being delayed by discussion about the proper institution—which must depend upon the prognosis—is facilitated; that such institutions admit of an easy survey of the whole number of lunatics in a land or in a province; that the inmates of an asylum for incurables can, when necessary, be very easily remitted to the hospital for treatment; whereas, in the other system, the transference of patients from a curable to a chronic asylum is a process not only dilatory and expensive, but also very hard and disheartening to the patient and his friends, and a return to the hospital upon the reappearance of favorable symptoms is then almost impossible.

But, on the other hand, it may be argued that the chronic asylum should not be a place whose portal bears the inscription "Lasciate ogni speranza." Though solely fitted up for the reception of old chronic cases, yet the means of recovery ought still to be present in the person of the physician, and in the external relations of the patient, which occasionally, though not frequently, afford returning hopes of recovery. Indeed, in the chronic asylum sometimes patients do recover,[1] and that without casting any slur upon the institution for treatment, which, in the transference of such a patient, would only say that nothing more can there be done, but that, however, other and quite new relations might still prove beneficial to him. Zeller, for instance, lays great stress upon the fact that removal to another institution[2] proves to many patients of no small value, and adduces as important arguments against the union of the institution for *cure* with that for mere guardianship, the want of efficient superintendence and of treatment of individual cases where there are so many patients under the care of one physician; the overloading of the medical superintendents with a mass of official business of no service to the patients; the great confusion which must result from a system so complicated and requiring so many assistants; the danger of the physicians neglecting the incurables, owing to the greater attraction offered by the curable cases, they being so much richer in results; finally, the evil influence which the sight of so many lost and hopeless lunatics—nay, even the very knowledge of the proximity of so many who are incurable—has upon the recently admitted cases.

The system of relatively connected ("relativ verbundenen") recent and chronic asylums, as advanced by Damerow, has been fully and practically carried out only in a very few places (Illenau and Halle); and in these, indeed, the separation of the hospital from the asylum has always been more fanciful than real, and may nowadays be regarded as completely abandoned. In this system there is, at all events, one other institution required, to which, out of the relatively connected ("relativ verbundenen") chronic asylum—if this is not to become of stupendous proportions—a regular draft can again take place of all such as are absolutely hopeless, those afflicted with other diseases—in short, the worst of the incurables (idiots, epileptics, etc., etc.). But if only a certain number of incurables, and selected from amongst the best of that class (*i. e.*, the quiet, and those still capable of leading a rational life) remain in the "relativ verbundenen" cure institution, there will not be required for these a perfectly distinct set of buildings, and a special chronic asylum relatively connected with the hospital for treatment. These incurables may, almost without harm, dwell amongst the recent and curable cases; nay, many alienists recognize in the presence of a stock of such long-disciplined incurable inmates a beneficial and essentially curative element for the newly admitted patients. So that recently, in a new asylum which would have presented unusual advantages for a "relativ verbundenen" cure and chronic institution, this system has been foregone,[1] and in the more lately built asylums in Germany, and in plans for such, the system of mingling the incurable (of the better sort) with the curable has been again adopted (as is moreover also the case in by far the greater number of asylums both in England and France).

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[1] According to Focke, the recoveries in incurable asylums are at the rate of from 3 to 6 per cent. In Pforzheim there recovered from secondary dementia from 4 to 6 per cent.

[2] See the interesting communication by Trélat regarding the transference of a great number of insane from the overcrowded asylums of Paris to several, in many cases far-distant, provincial institutions, 'Annal. Méd. Psychol.,' tome iv., 1844, pp. 230, 366. The advantage of transference to another institution has recently been learned in England; 'Ztschr. f. Psych.,' xv., 1858, pp. 114, 147.

But that is not to say that we have reverted to the old system of mixing all the insane indiscriminately together; but the principle of division, founded upon curability—a principle which was founded upon motives the most earnest—and which, at least in Germany, has long served as a guide for the variety of institution, has been abandoned. It appears to me that in the special *cure* institutions, that nucleus of patients habituated to an asylum, which appears so desirable, forms everywhere of itself, in spite of the destination of the *cure* institution, and entirely without the connivance of the physician; for it is well known that nothing is more difficult to maintain in a pure hospital than a regular and prompt dismissal of all the incurable patients, and always a number of these insane remain through entire years, even although their insanity is known to be incurable. Whether, then, is it better to erect asylums which shall receive curable lunatics mingled with a certain select number of incurables, or such as are destined entirely for curable (recent) cases, and from which all who become incurable are again ejected? This is a question which cannot be answered in a general way. The solution of this, like so many practical questions regarding asylum concerns, depends very much upon the population of the country, upon the number of lunatics already in asylums, upon the possibility of making use of the existing buildings, upon the pecuniary resources at one's disposal, upon the special aims which it is intended to combine with their erection (*e. g.*, clinical instructions), and most of all depends, in the end, upon the style of execution, and the spirit which is imparted to the whole by those charged with the direction of such matters. At all events, it seems to me as premature completely to renounce the system of special cure institutions.[1] If, however, we accept this system of two relatively connected lunatic asylums, the chronic asylum must be capable of containing at least three times the number of inmates of the other (3–400 : 100). The chronic asylum can and must be large; the cure institution must be able promptly to dismiss all recognized as incurable. When these conditions are fulfilled, when the cure institution contains such patients only as are undergoing active treatment, then their number ought never to exceed one hundred; for even with this number it is almost impossible for one physician to examine minutely into, and actively to treat, each individual case.

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[1] Gudden, 'Ztschr. f. Psych.,' xvi., 1859, p. 628.

Whatever system be adopted for the regulation of asylum matters in a country, the special guardianship of the State ought, at all events, only to be extended to a certain portion of the insane. The overcrowding, of which all lunatic asylums at present complain, the pressure upon them, and which is always bringing discredit upon the calculations upon which they are constructed, must somewhere find a limit. This is possible. In the first place it is, of course, necessary that those calculations be correct (based upon an exact calculation of the number of insane in a country, and it can be assumed that, at the utmost, half of them require the care of an asylum), but in that case there should be received into the chronic asylum only the dangerous patients, or the incurables who cannot be taken care of in families or in parishes (not, however, the absolutely inoffensive or simply troublesome), and no concession ought to be made to families and parishes for supporting the harmless incurables; it is their duty to take care of them, and the State ought to see that this duty be both satisfactorily and humanely performed. It is self-evident that the State asylums for incurables ought only to be made use of by the poor. As to the curable patients, it is the duty of the State to see that the necessitous are treated as such in the asylums devoted to the purpose of treatment; but whether it should also see to those of the insane who, by their own private means, are able to enjoy all the desirable advantages found in good private asylums, is still an open question. Were this question answered in the negative, a great simplification and reduction would take place in all that concerns public asylums, and in all large countries the erection of pauper asylums of very simple organization, for treatment and for care, would certainly be a great advantage. But, of course, in the present condition of affairs, it is not yet possible to effect a conversion of all the public lunatic asylums into pauper lunatic asylums.

§ 234. If we proceed now to examine the *general requisites* for a public lunatic asylum, we may place in the foremost rank *facility* of *access* to the patients, and the capability of constantly receiving fresh cases. We shall attain these objects partly by regulations of the medical police, and partly by dispensing with all useless and time-wasting formalities, by diminishing the cost of maintenance or gratuitously supporting patients of the poorer classes, and by inspiring the public with confidence in asylums generally; and further, as a result from this, in all large countries the asylums would be more distributed in different districts. Asylums, too, ought to recommend themselves by their excellent organization and by the spirit which pervades them; and not only ought this organization, and this spirit, to be in conformity with the ideas of humanity in our own epoch, but they must also be—and this is truly a fundamental requisite—out-and-out *medical*.

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[1] Roller ('Ztschr. f. Psychol.,' x., p. 397) at that time considered the question regarding the best system for quite distinct, in the sense of "relativ verbundenen," cure and chronic asylums, and imagines that no man would now think of erecting completely separated asylums for recent cases. According to a new order of lunatic-asylum arrangements, it was no longer proposed to erect in the province of Silesia a "relativ verbundenen" institution, but to have one cure-institution where patients should undergo treatment for a certain fixed period (one year), two cure-institutions where patients should reside for an indefinite time, and one chronic institution (ibid., 1855, p. 438). In 1858 there was a prize offered in Germany for the best plan of a lunatic asylum for purely recent cases (Heilanstalt) capable of containing from 150 to 200 patients.

Every asylum is nothing more than an hospital for those affected with disease of the brain. All of them, and especially those whose object is the *cure* of the patients, must all throughout present the character of an hospital, not of a reformatory, a manufactory, or a prison. It may be here stated, at the same time, that everything in connection with the asylum must be under medical superintendence, that its management must be in the hands of the chief physician, who should have, with a certain freedom from restriction, command of all extraneous aids for the benefit of the whole institution; but the physician to an asylum must be a thorough physician, and not simply a manager, who, though possessing a knowledge of medicine to some extent, is yet at every examination of his patients obliged to call in the assistance of a regular practitioner.

The peculiarity of the diseases treated in an asylum require the physician to have at command, not only all the usual medical appliances (pharmaceutic baths, etc.), but, in addition to these, every arrangement tending to prevent patients inflicting injury on themselves or others, and to have them always amenable to medical treatment. In the same way must be provided whatever else is necessary to their maintenance, exercise in the open air, labor, recreation, and amusement. Thus, institutions of this kind must be furnished not only with a staff of servants for superintending and waiting upon patients, and extent of accommodation necessary for individuals who require isolation (in addition to the ordinary means of restraint), but it must also be furnished with plots of ground for the employment of the patients in field labor, gardens and pleasure grounds for walking, materials for working, and every possible means of amusement.

A requisite even more essential in the arrangement of an asylum is the appropriate separation of patients from one another; in the first place according to sex (this is usually done by apportioning them to separate wings of the establishment); then according to the form of madness, yet not strictly according to nosological classification, but rather by the symptoms of the malady (*i. e.*, whether quiet or more turbulent); and lastly, among the quietly disposed who live together according to their station in life and their intellectual cultivation (of course in the case of the secluded such distinctions are needless). For the purpose of thus separating the patients, the nosological form cannot be accepted as a rule, especially because the cases usually present such mixed forms and so multifarious transitions; because it would even be dangerous in some cases (*e. g.*, in patients with suicidal tendencies) to permit them to live together and to have much intercourse; and lastly, because the apparently quiet melancholic maniacs and dements could not, as proved by universal experience, well live together without an equal amount of trouble and prejudicial results ensuing: the dements, especially the paralytics, must be entirely separated and confined to apartments expressly devoted to them. In the separation of patients according to their outward demeanor, one must be cautious, in so doing, not to carry it to such an extent as to subdivide the service too much, and thereby augment the requisite amount of superintendence. From four to five divisions are needed, both on the male and female sides: one for individuals who must be secluded (*e. g.*, the delirious, noisy, and most unruly), though this, of course, should be limited to the shortest possible time, a second (especially in the chronic asylum) for the paralytic, epileptic, and arrant idiots; two for quiet patients (one for those of the higher class, another for those in the humbler stations of life); fifth, divisions or detached dwellings for convalescent or other patients for whom it may be considered beneficial for a longer time to live more retired, and in perfect quiet. In many institutions yet another division is kept for the bedridden, and a perfectly detached building for convalescents. This last has proved not so expedient.

In several institutions situated in large towns, a division is reserved for insane persons who have committed some crime. In Bicêtre there is a division for this purpose, but it is of a dirty menagery-like character. Dundrum in Dublin is a well-conducted institution, especially set apart for the reception of such individuals, and capable of accommodating about a hundred patients. In Königsberg, also, there is an institution of this description, and in America several have lately been opened. The greater number of insane criminals would, however, as Delbrück has pointed out, be much better if left in a penitentiary than removed to an asylum.

The chief literature on the subject of lunatic asylums may be here referred to: Zeller, 'Art. Irrenanstalten in Ersch und Grüber's Encyclopädie;' Damerow, 'Ueber die relative Verbindung der Irren-Heil- und Pflegeanstalten,' Leipzig, 1840; Parchappe, 'Des Principes à suivre,' etc., Paris, 1853; Guislain, 'Leç. oral.,' iii.

§ 235. In different countries where the subject of insanity has received attention, it has been attempted to meet these requirements by widely different architectural arrangements. While the English institutions in general present a most imposing appearance by their massive and elegant exterior, possess the greatest completeness in the interior as regards convenience of space and all domestic arrangements (as heating, lighting, cleaning, working arrangements, etc.), and, combined with great comfort, a certain regularity of routine that corresponds well with the almost mechanical nature of the superintendence and treatment, the French asylums, on the other hand, are constructed on quite a different principle, especially those formed on Esquirol's plans. They consist of a series of square houses, widely apart, of merely a ground-floor containing a number of single cells or rooms, a common conversation-room, work-room, etc., with a colonnade around, and inclosed in the centre a plot of grass. Several parallel rows of such single-storied squares are connected together by those colonnades, including the storehouses, work-room, chapel, bathing-houses, etc. This mass of distinct buildings, which occupies an immense area, is not only more costly to erect, but renders the oversight more difficult, and affords fewer facilities of visiting the more distant parts of the institution and of general superintendence.

On this account, up to the period when, by the introduction of labor and instruction, quite different principles were followed in the construction and arrangement of French asylums, these institutions were distinguished by a want of restraint, the uncontrolled roaming about, and unruly character of the patients. In the construction of the most modern institutions in France, the ideas of Esquirol seem to have been considerably deviated from.

In Germany there has been an attempt to combine the good qualities of both systems,[1] although, upon the whole, the German institutions approach nearer in their construction to the English asylums than to those formed on the plans of Esquirol. The newer institutions are usually so arranged, that in one, or several, central buildings of two or three stories in height, the common rooms, the office, the chapel, the kitchen, the washing-houses, the store-rooms, the rooms of the officials, are all together. From each side of these one, or, in "relativ verbundenen" institutions, two double-storied wide wings extend, either in direct communication or detached. In these are the different divisions for convalescents, boarders, quiet patients of middle and lower rank in life, together with attendants' accommodation, baths, etc. As a completion to the whole, are small, single-storied buildings, as far as possible removed from the centre, which contain the cells for unruly patients, especially those requiring isolation. Each division of the house must have its own garden and pleasure-grounds for its inmates; all the stairs, windows, and doors must be seen to, that they are not only of sufficient strength, but also that they are of the simplest possible mechanism, and a sufficient guarantee for the security of the patients; the internal fittings of the dwelling and sleeping apartments in the division for the noisy and maniacal must be of the simplest description; it must also be immovable, and in the other parts of the institution simpler or more elegant, according to the station and requirements of the patients.

A leading principle in the erection and whole internal arrangements, which has certainly been too often overlooked, is that all the household arrangements of an asylum should, so far as is consistent with its peculiar design, resemble those of a large private dwelling-house—that they should differ as little as possible from the houses and furnishings of the sane. On this principle all plans are objectionable which, by attractive peculiarities of architecture, such as steeples, turrets, etc., insinuate, even by their external appearance, that they are intended for some peculiar purpose. All prison-like cells on the one hand, and on the other all undue magnificence in lofty halls, colonnades, etc., must, on the same principle, be avoided. It should throughout have the appearance of a medical institution, whose express aim is the restoration of health; it should convey the idea of ease, comfort, stability; it should also be cheerful and pleasant, with a scrupulous regard to cleanliness, which in such institutions should be always assiduously and perseveringly insisted on.

The institution must, moreover, be situated in a healthy locality, and, where it is possible, in a neighborhood rich in natural beauties. It may be well to have it in the vicinity of a small town, where the necessary provisions may be had, and intercourse conveniently maintained with the inhabitants. It is needful also to have asylums in proximity to large cities. Institutions so situated have the advantage of a constant supply of new cases. Under no circumstances, however, should an asylum be built within the precincts of a city. It should be surrounded by a piece of ground, its own property, inclosed all round by a wall. It is of great advantage to have the ground-floor raised above the level of the soil. Where practicable, it should be built near a flowing stream, in order that the bathing and washing establishments may possess an abundant supply of fresh water, and for the purpose of out-of-door bathing. The grounds should be extensive and agreeable, with gymnasium, skittle-ground, playground, etc.

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[1] Holland has, in its distinguished Meer-en-Berg, produced a model institution by combining in a certain degree the advantages of all the systems: specially as in that country Schroeder van der Kolk has directed all the matters connected with the insane in such a pattern manner.

Where there are special chronic asylums (Pflegeanstalten), much larger workrooms will be required, in which the patients—especially during the winter season—may employ themselves, and where many things necessary for the institution may be made. Asylums of this kind must also have the usual divisions for the unruly, the quiet, the well-conducted of all grades; however, they may be much simpler, and it is expedient to erect a greater number of single-storied dwellings on account of the large number of dirty patients and of paralytics.

Of institutions for the reception of idiots, a twofold division can also be made: of those whose object is the cure or improvement of the inmates, and of those devoted merely to their confinement. Since the undertaking of Guggenbühl on the Abendberg (1841) these first have attracted great interest, and in them numerous experiments have been made, but, from the very nature of the case, their benefits can extend only to children, and thus they partake more of the nature of training institutions than of hospitals. Ferrus Séquin and Voisin during the last thirty years have given a great impulse to the efforts for the training and cure of idiots; and even so early as 1835 a clergyman of Würtemberg (Haldenwang in Wildberg) had a small institution erected for the training of idiotic children. After the plan of that at Abendberg, the following institutions were founded: that at Mariaberg (founded by Rösch, 1847), Winterbach (likewise in Würtemburg, 1852), Ecksberg in Bavaria (1852), Hubertusburg in Saxony (a Government institution, 1852), two in Berlin (one in Liesing near Vienna, one in Bendorf in Coblenz), one large idiot school in the Hague (1855), and many still smaller or less known houses; but all of these are far surpassed by the magnificent institution of Earlswood, in the vicinity of London (1857).

It does not fall within the province of this book to treat in detail how such institutions should be furnished and organized so as to accomplish their special ends (p. 364); but, in general, that may very easily be deduced from the propositions already laid down when discussing the treatment of idiots. Concerning the more modern idiot asylums, see Theile (loc. cit., p. 105).

§ 236. At the head of the *personnel* of the lunatic asylum, subject to the directing authorities of the State, stands the superintending physician, by whose character, as a man and as a scholar, the pervading influence in the institution in a great measure depends. Side by side with the grand essential of a thorough acquaintance with medicine (and, in institutions specially devoted to the cure of insanity, a particular knowledge of nervous pathology), there is required in the head physician, and justly expected of him, a rare combination of moral excellencies—benevolence, great patience, self-command, freedom from prejudice, a knowledge of men gained by actual experience of the world, conversational powers, a decided liking for his own special vocation; for this alone will enable him to overcome its manifold toils and discouragements. Assistant physicians are also needed to aid the director in the treatment of the patients, the keeping of the journals and correspondence, in post-mortem examinations, in the major surgical operations, etc. In most asylums, a clergyman is appointed, whose duty is to conduct divine worship, regularly to visit the sick, and promote recovery by religious remedies. It has been already remarked (p. 357) that in few cases ought such measures to be adopted, and that all such visits should be made under the supervision of the physician, and only by his permission. It would be an egregious error to put into the hands of the laity any degree of liberty, however limited, in the treatment of the insane. Their views in such matters must necessarily be very one-sided. Justly, therefore, have some of the most illustrious physicians (*e. g.*, Nasse, Jessen, and some others) sought to curtail more than ever the assistance in psychological therapeutics formerly rendered by clergymen. Frequently, also, we find a teacher appointed who, without any pretensions to the exercise of such psychological means of cure, is employed to instruct the patients, and thereby promote their intellectual culture and amusement.

Two head attendants, a male and a female, should take charge of the lower staff of servants. Only persons of considerable bodily strength should be engaged as attendants; they should also be intelligent and good-natured: but persons in every respect what could be desired are seldom to be found. Each attendant is generally intrusted with from six to ten patients, but some patients require the entire services of an attendant. In many institutions, these attendants are selected from the brotherhood or sisterhood of some religious order, a proceeding which, on the whole, has more objections than recommendations. Besides these, there are in asylums, as in every other institution, officers specially connected with the economical department.

§ 237. In order that the arrangements in connection with an asylum, necessarily always so complicated in consequence of the great number of persons and requisites employed, may go on with order and without confusion, there must be a written set of rules for the guidance of the officials; the precise duties of each servant should be definitely and briefly stated, all their duties punctually arranged, and the method of each prescribed. These rules, judiciously framed, should become the habit of the institution, and the director of the establishment should be himself an example of order, and thereby exert a wholesome influence on all that are under him. The discipline of an asylum should be stringent, and not, under the specious appearance of benevolence, conducted on the *laisser-aller* principle; punctuality in the division of time, the strictest order, and the faithful discharge of duty, must all be attended to. All its operations should be so conducted that every one, whether healthy or insane, who visits or resides in the establishment, may be impressed with the idea that it is conducted on rational principles; a sense of tranquillity and ease should pervade the whole, and the desire for activity on the part of the patients, which precedes and accompanies every case of recovery, should be quietly and moderately indulged. As we strive to divert the mind from the feeling of restraint by planting trees and shrubs round the walls that inclose the grounds of the institution, familiar intercourse should not be too strictly prohibited among the patients. We have seen much benefit result from a certain amount of social intercourse, in which the ordinary forms of general society were observed. Indeed, everything that would estrange the patients from the habits of the world should be steadily avoided. To counteract such a tendency, general amusements, social gatherings, and walks are of great service. By degrees the patients should be thus introduced to the society of the sane. It has been shown above that from such a system of humane liberal treatment, much more satisfactory results will flow than there would from a stricter method. Every gloomy, ascetic, barrack-like spirit should be avoided, and the great object of treatment should be, not only to diffuse a spirit of cheerfulness and reflection, but also to elicit and encourage it on the part of the patient.

§ 238. Previous to the admission of a patient into a public asylum, a special medical report must be prepared, indicating the present state of his disease, its origin, and development. Many of the particulars on these subjects have generally to be furnished by his friends. Their statements should contain an unreserved disclosure of everything important in the previous history of the patient, since these are of the utmost importance to the physician. The medical report should deal with all questions that bear on the duration of the malady; all etiological questions, as to its hereditariness, bodily and mental dispositions, previous diseases—especially of the nervous system. It must particularly recount all the symptoms of its gradual or sudden outbreak, and the present state of the morbid phenomena, whether the patient has previously shown any outrageous symptoms—details which are of essential service to the physician who has any pretensions to a comprehensive acquaintance with insanity. When once it is determined to remove him to an asylum, the patient should be informed of the resolution; if he obstinately refuses to go, it is much better to convey him by force[1] than to lure him in by artifice (*e. g.*, by telling him he is going on a pleasure excursion). Such a plan exasperates him to an intense degree, and prevents for a long time that confidence in the institution which is so essential to his welfare.

The admission of individual patients into Government asylums, unless in urgent cases, depends very much on the approval of the Government authorities, which in turn is regulated by the opinion of the directing physician. In order to facilitate the admission of new cases, the forms of procedure should be as simple and expeditious as possible. The dismissal of patients chiefly depends upon the order of the director. At first it should invariably be provisional or experimental. Thus, on the first indications of relapse, it will be easy to bring the patient back to the asylum. During this temporary dismissal, the patient's private physician should furnish an occasional report of the state of his health. Should the convalescence continue during a sufficient period, varying from at least one to two years, the patient may then, for the first time, be permitted to quit all connection with the asylum. Free societies in aid of needy convalescents have, in many places, been attended with most happy results.

§ 239. In addition to public asylums we have to speak also of private institutions. This latter class in a great measure supplies the deficiency that is felt in countries where the interests of the insane receive no attention from Government, or where the Government asylums are inadequate to the accommodation of all lunatics. Their chief use, however, is for patients belonging to the wealthier and the aristocratic classes of society, who would not be satisfied with the ordinary public asylums. Their importance has in later times greatly increased, and is daily becoming greater. The State should place these institutions in the charge of scientific physicians; they ought never to be committed to the care of laymen, surgeons, and such like; and the directors should be required to furnish sufficient evidence of their ability to treat insanity, namely, a sufficient acquaintance with that special branch of study and a complete knowledge of its practice. Such abuses and scandals as have occurred in some English private institutions should be rendered quite impossible in all cases, although cases of a similar kind have never even been suspected in Germany.

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[1] No restraint is the universal rule nowadays in well-regulated asylums.

Another plan than that of asylums has been followed in some places for the maintenance and employment of the insane. A colony of insane has been formed in the remarkable Belgian village of Gheel, in which, for several hundreds of years past, lunatics have lived together with the inhabitants, and even resided in their families. In former times, people frequently resorted thither to supplicate the aid of Dymphne, the patron saint of the insane, although people are seldom in the habit now of consulting her oracle. Repeated attempts have recently been made to establish some degree of regularity and system among this settlement of lunatics. Out of a population of about 9,000, it has from 900 to 1,000 inhabitants who are insane. In the year 1850, it was sought to establish an administration for regulating the habits of the people and to introduce some reforms. But, according to Parigôt,[1] these attempts generally met with little success. The lunatics enjoy an amount of pleasure and freedom which could never be permitted them in an asylum. All who are capable of it share in the mechanical or agricultural employments of the sane. The treatment in the main is very mild, and restraint is never made use of without previously consulting a physician. Suicide is rare, and the general physical health so good, that in 1838 two of the patients reached upwards of 100 years of age. Owing to the peculiar situation of Gheel, escape by the patients is difficult; it is enclosed by moors, and is several leagues distant from other villages. With all its advantages it has undoubted drawbacks, and there has recently been published such an amount of literature of a polemical kind, furnished by critics and visitors of Gheel, that, although the majority are in favor of this lunatic-colony, they are obliged to admit it has serious defects. But the experiment at Gheel has proved[2] that the greater number of insane do not require the confinement of an asylum; that many of them can safely be trusted with more liberty than these institutions allow; and that association in the family life is very beneficial to many insane patients. The case of Gheel has suggested the question whether similar colonies might not be established in other places, and the evils resulting from the overcrowding of lunatic asylums thereby removed. In England and Germany, an exact imitation of Gheel has been recommended; it was recently proposed to assemble a number of lunatics within a village in the immediate vicinity of a Government asylum, so that it might maintain a certain relation to them. The difficulties in the way of adopting this plan, which have been collected and clearly set down by W. Jessen,[3] have not yet been surmounted. Still, however, I continue in the belief that the day will come when the means and method will be discovered by which the problem of a lunatic colony, and thus the question of the care and treatment of all classes of the insane, will be finally solved.

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[1] 'Journ. de Méd. de Bruxelles,' 1859, p. 464.
[2] Roller, 'Ztschr. für Psych.,' xv., 1858, p. 420.
[3] Deutsche Clinik, 1858, 'Ztschr. f. Psych.,' xvi., p. 42.

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